MIDDLE LEVEL EDUCATION

Middle Level Education

The middle level program, most often viewed as grades six through eight, expands and extends students' learning from the elementary grades and prepares them for the high school experience. It reflects a challenging academic curriculum, provides a variety of relevant learning experiences and supports the developmental needs of students through ongoing, structured relationships with teachers, peers, counselors and other adults. Students at the middle level continue to develop and expand their abilities to solve problems, make connections and integrate knowledge within and across content areas as well as to their own life. They reason and communicate their ideas.

The content standards outlined in the *Program of Studies* define the middle level curriculum necessary to meet the minimum high school graduation requirements. In addition, effective middle level programs should encompass more than the content outlined in the *Program of Studies* to fully address Kentucky's learning goals and academic expectations.

Age-appropriate, relevant classroom experiences that enrich and enhance the core curriculum should be included in middle level programs. These opportunities support academic core learning and foster fitness and health. They allow students to pursue personal interests, explore career options and experience the arts. These opportunities may be provided through exploratory or enrichment classes or by integration into the core curriculum.

An effective formal advising and guidance process typically provides all students with at least one adult mentor at the school to guide and encourage them to take rigorous academic courses and to remind them that doing well in school matters to future success.

Content documents for the middle level are arranged sequentially by grade. Schools have the opportunity to create integrated, interdisciplinary or multidisciplinary programs that personalize the educational process for all students and ensure a successful transition to high school.

Program of Studies – Inquiry and Research – Middle Level

Embedded within each content area are Inquiry and Research standards.

Big Idea: Inquiry and Research

The Big Idea for Inquiry and Research states: the inquiry process is an authentic method of learning that includes activities such as self-selecting topics, formulating authentic questions, gathering information, researching resources, crafting experiments, observing, interviewing, evaluating information, analyzing and synthesizing data, and communicating findings and conclusions. The information-gathering stage is a self-directed process that is owned by the engaged learner. Individually and collaboratively, students work for a particular purpose, such as to discuss a text, solve a problem, make a decision, reach new understandings, and/or create products.

Academic Expectations

5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.
5.3 Students organize information to develop or change their understanding of a concept.
5.4 Students use a decision-making process to make informed decisions among options.
5.5 Students use problem-solving processes to develop solutions to relatively complex problems.
6.1 Students connect knowledge and experiences from different subject areas.
6.2 Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.
1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.

Enduring Knowledge – Understandings

Students will understand that

- the inquiry process is used to investigate topics or questions important to the researcher. Questions are redefined throughout the learning process. The researcher may revise the question, refine a line of query, or go in a direction that the original question did not anticipate.
- many methods of and sources for investigation exist, including interview, observation, survey, viewing, experimenting, and critical reading. The ability to synthesize meaning is the creative spark that forms new knowledge.
- inquiry integrates elements and processes of reading, writing, research, creative and critical thinking, and logic, and involves communicating findings through a product.
- collaboration involves sharing new ideas with others. Shared knowledge is a community-building process, and the meaning of research/investigation takes on greater relevance in the context of the learner's society. Comparing notes, discussing conclusions, and sharing experiences are all examples of this process in action.
- reflection is ongoing and integral to the inquiry and research processes and involves taking the time to look back at the question, the research strategy, and the conclusions made. The learner evaluates, makes observations, and possibly makes new decisions.

MIDDLE LEVEL ARTS AND HUMANITIES

Program of Studies – Arts and Humanities – Sixth Grade

The arts and humanities program in the sixth grade centers on establishing grounding in the arts so that students are able to communicate at a basic level in each of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. Students may have already begun to, or at this level choose to focus on one art form for more in-depth study. This will help students to prepare should they choose specialization in one art form at the high school level. Grounding in the arts involves literacy development in the four arts content areas, analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the sixth grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

Creating involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

Performing is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

Responding to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

Academic Expectations 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contests in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

In the sixth grade, social studies content is focused on world geography. Arts of various world cultures will be explored. Students will experience arts from India, Latin America and countries that have influenced Latin American arts, Japan, China, and once again revisit how African and Native American cultures have influenced arts in the United States as well as Latin influences in the arts of the United States.

Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.23 Students analyze their own and others' artistic products and performances using accepted standards.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

Grade 6 Skills and Concepts – Music

Students will

- use appropriate terminology to identify and analyze the use of elements in a variety of music (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (gospel, Broadway musicals, blues, popular, marches, ballads)
- identify instruments according to classifications (family, voices, folk and orchestral instruments)

Grade 6 Skills and Concepts – Dance

Students will

- use appropriate terminology to identify and analyze the use of elements in a variety of dance (space, time, force) to express thoughts, ideas, and feelings
- observe, describe and demonstrate choreographic forms in dance
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing patterns of movement independently and with others
- identify and describe themes and styles (including characteristics of styles) of dance

Big Idea: Structure in the Arts – Continued

Grade 6 Skills and Concepts – Drama/Theatre
Students will

- use appropriate terminology to identify and analyze the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- identify and describe how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood and believable characters
- describe and compare types of stages (arena, thrust, proscenium)
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

Grade 6 Skills and Concepts – Visual Arts
Students will

- use appropriate terminology to describe and analyze the use of elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) in a variety of visual artworks
- use the elements of art, principles of design and a variety of processes in creating artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas
- identify and analyze the use of elements of art (e.g., line, shape, form, texture, primary and secondary colors, color schemes/groups) and principles of design (e.g., focal point, pattern, balance, contrast) in a variety of two and three dimensional artworks
- identify a variety of subject matter in visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

Academic Expectations

2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

Grade 6 Skills and Concepts – Music

Students will

- describe and analyze distinguishing characteristics of music representing a variety of world cultures (Latin America, Asian) and time periods
- listen to, perform and classify music representing a variety of world cultures and historical periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs, or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music

Grade 6 Skills and Concepts – Dance

Students will

- describe and analyze distinguishing characteristics of dance representing a variety of world cultures (Latin America, Asian) and time periods
- observe, classify and perform dance representing a variety of world cultures and historical periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

Big Idea: Humanity in the Arts – Continued

Grade 6 Skills and Concepts – Drama/Theatre
Students will

- describe and analyze distinguishing characteristics of dramatic work representing a variety of world cultures (Latin America, Asian) and time periods
- observe, classify and perform dramatic works representing a variety of world cultures and historical periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe and compare themes, characters, and situations in dramas from different cultures or time periods (e.g., Native American and African influences on American storytelling)

Grade 6 Skills and Concepts – Visual Arts
Students will

- describe and analyze distinguishing characteristics of visual art representing a variety of world cultures (Latin America, Asian) and time periods
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place that are reflected in them
- use print and non-print sources to explore, describe, and compare themes, characters, and situations in artworks from different cultures or time periods

Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

Grade 6 Skills and Concepts – Music

Students will

- compare and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

Grade 6 Skills and Concepts – Dance

Students will

- compare and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

Grade 6 Skills and Concepts – Drama/Theatre

Students will

- compare and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

Grade 6 Skills and Concepts – Visual Arts

Students will

- compare and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

Grade 6 Skills and Concepts – Music

Students will

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements to create and perform music in an expressive manner
- sing or play alone and with others examples of music with increasingly complex melodies and rhythmic patterns in treble and bass clef (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

Big Idea: Processes in the Arts – Continued

Grade 6 Skills and Concepts – Dance
Students will

- be actively involved in creating and performing dance (incorporating the elements of dance: space, time and force) alone and with others
- create an improvisational dance with complex movements (beginning, middle and end)
- use knowledge of dance elements to create and perform dance in an expressive manner
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

Grade 6 Skills and Concepts – Drama/Theatre
Students will

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Performance)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to:
  - write, refine and record dialogue, monologues, and action
  - explore jobs/careers and skills associated with dramatic arts (theater, media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

Grade 6 Arts Skills and Concepts – Visual
Students will

- be actively involved in selecting media, techniques and processes for creating artworks applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work and the work of others
- identify and apply criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

Grade 6 Skills and Concepts – Arts

Students will

- recognize common terms and concepts used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

Program of Studies – Arts and Humanities – Seventh Grade

The arts and humanities program in the seventh grade centers on establishing grounding in the arts so that students are able to communicate at a basic level in each of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. Students may have already begun to, or at this level choose to focus on one art form for more in-depth study. This will help students to prepare should they choose specialization in one art form at the high school level. Grounding in the arts involves literacy development in the four arts content areas, analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the seventh grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

Creating involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

Performing is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

Responding to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

Academic Expectations 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contests in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

In the seventh grade, social studies content is focused on ancient civilizations. Arts of various old world civilizations will be explored. Students will experience arts from ancient Egypt, Greece and Rome, as well as arts from the medieval period in European history.

Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products, and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.23 Students analyze their own and others' artistic products and performances using accepted standards.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- Existing and emerging technologies can inspire new applications of structural components.

Grade 7 Skills and Concepts – Music

Students will

- use appropriate terminology to identify and analyze the use of elements in a variety of music (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (gospel, Broadway musicals, blues, popular, marches, ballads)
- identify instruments according to classifications (family, voices, folk and orchestral instruments)

Grade 7 Skills and Concepts – Dance

Students will

- use appropriate terminology to identify and analyze the use of elements in a variety of dance (space, time, force)
- observe, describe and demonstrate choreographic forms in dance
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing patterns of movement independently and with others
- identify and describe themes and styles (including characteristics of styles) of dance

Big Idea: Structure in the Arts – Continued

Grade 7 Skills and Concepts – Drama/Theatre
Students will

- use appropriate terminology to identify and analyze the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- identify and describe how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood and believable characters
- describe and compare types of stages (arena, thrust, proscenium)
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

Grade 7 Skills and Concepts – Visual Arts
Students will

- use appropriate terminology to describe and analyze the use of elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) in a variety of visual artworks
- use the elements of art, principles of design, and a variety of processes in creating artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas
- identify and analyze the use of elements of art (e.g., line, shape, color properties, color schemes/groups, form, texture, space, value) and principles of design (e.g., repetition, emphasis, pattern, balance, contrast, rhythm, proportion, movement) in a variety of two and three dimensional artworks
- identify a variety of subject matter in visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

Academic Expectations

2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

Grade 7 Skills and Concepts – Music

Students will

- describe and analyze distinguishing characteristics of music representing a variety of world cultures (e.g., Classical Greece-Pythagoras' music theory) and historical periods (e.g., Medieval)
- listen to, perform and classify music representing a variety of world cultures and historical periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs, or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music

Grade 7 Skills and Concepts – Dance

Students will

- describe and analyze distinguishing characteristics of dance representing a variety of world cultures and historical periods (e.g., Medieval)
- observe, classify and perform dance representing a variety of world cultures and historical periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

Big Idea: Humanity in the Arts – Continued

Grade 7 Skills and Concepts – Drama/Theatre
Students will

- describe and analyze distinguishing characteristics of dramatic work representing a variety of world cultures (e.g., Classical Greece and Ancient Rome) and historical periods (e.g., Medieval)
- observe, classify and perform dramatic works representing a variety of world cultures and historical periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe, and compare themes, characters, and situations in dramas from different cultures or time periods (e.g., universal ideal of beauty through logic, order, reason, and moderation, Morality plays - characters are personification of good and evil in a struggle for man's soul)

Grade 7 Skills and Concepts – Visual Arts
Students will

- describe and analyze distinguishing characteristics of visual art representing a variety of world cultures (e.g., Classical Greece, Ancient Rome and Egypt) and historical periods (e.g., Medieval)
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place that are reflected in them
- use print and non-print sources to explore, describe and compare themes, characters, and situations in artworks from different cultures or time periods

Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

Grade 7 Skills and Concepts – Music

Students will

- compare and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

Grade 7 Skills and Concepts – Dance

Students will

- compare and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

Grade 7 Skills and Concepts – Drama/Theatre

Students will

- compare and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

Grade 7 Skills and Concepts – Visual Arts

Students will

- compare and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional, persuasive)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to audiences.

Grade 7 Skills and Concepts – Music

Students will

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements and a variety of sound sources to create and perform music in an expressive manner
- sing or play alone and with others examples of music with increasingly complex melodies and rhythmic patterns in treble and bass clef (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

Big Idea: Processes in the Arts – Continued

Grade 7 Skills and Concepts – Dance
Students will

- be actively involved (individually and in small groups) in creating and performing dance (using the elements of dance: space, time and force) in a variety of compositional forms (AB, ABA, call and response, or narrative)
- create an improvisational dance with complex movements (beginning, middle and end)
- use knowledge of dance elements to create and perform dance in an expressive manner
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

Grade 7 Skills and Concepts – Drama/Theatre
Students will

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Performance)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to
  - write, refine and record dialogue, monologues, and action
  - explore jobs/careers and skills associated with dramatic arts (theater, dramatic media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

Grade 7 Skills and Concepts – Visual Arts
Students will

- be actively involved in selecting media, techniques, subject matter and processes for creating artworks for specific purposes, applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work creations and the creations of others
- identify and apply criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- the arts are basic forms of human communication.
- music, dance, drama, and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

Grade 7 Skills and Concepts – Arts

Students will

- recognize and discuss common terms and concepts used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

Program of Studies – Arts and Humanities – Eighth Grade

The arts and humanities program in the eighth grade centers on establishing grounding in the arts so that students are able to communicate at a basic level in each of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. Students may have already begun to, or at this level choose to focus on one art form for more in-depth study. This will help students to prepare should they choose specialization in one art form at the high school level. Grounding in the arts involves literacy development in the four arts content areas, analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the eighth grade level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

Creating involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

Performing is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

Responding to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

Academic Expectations 2.25 and 2.26 bring forward the study of the humanities aspects of the arts. The arts reflect time, place, and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contests in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

In the eighth grade, social studies content is focused on United States history, early inhabitants to reconstruction. Arts of that time period in American history will be explored. Students will study the arts of the United States from early inhabitants to Reconstruction after the Civil War. Again, European, African, and Native American influences on American arts will be revisited as well as American innovations and styles, and the influence of technology on the arts developed during this period in United States history.

Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret or critique artworks from other artists, cultures and historical periods.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.23 Students analyze their own and others' artistic products and performances using accepted standards.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the elements of music, dance and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles, and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

Grade 8 Skills and Concepts – Music

Students will

- use appropriate terminology to identify and analyze the use of elements in a variety of music (rhythm, tempo, melody, harmony, form, timbre, dynamics)
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music and creating music independently and with others
- listen to and explore how changing different elements results in different musical effects
- recognize, describe and compare various styles of music (gospel, Broadway musicals, blues, popular, marches, ballads)
- identify and describe instruments according to classifications (family, voices, folk and orchestral instruments)

Grade 8 Skills and Concepts – Dance

Students will

- use appropriate terminology to identify and analyze the use of elements in a variety of dance (space, time, force)
- observe, describe and demonstrate choreographic forms in dance
- apply elements of dance and principles of movement (e.g., balance, initiation of movement, weight shift) when observing, creating and performing patterns of movement independently and with others
- identify and describe themes and styles (including characteristics of styles) of dance

Big Idea: Structure in the Arts – Continued

Grade 8 Skills and Concepts – Drama/Theatre
Students will

- use appropriate terminology to identify and analyze the use of elements of drama (literary, technical, performance) in a variety of dramatic works
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- identify and describe how technical elements (staging, scenery, props, costumes, make-up, lighting, sound) and performance elements (acting, speaking, nonverbal expression) create mood and believable characters
- describe and compare types of stages (arena, thrust, proscenium)
- explore a variety of dramatic works (e.g., theater and dramatic media – film, television, electronic media)

Grade 8 Skills and Concepts – Visual Arts
Students will

- use appropriate terminology to describe and analyze the use of elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) in a variety of visual artworks
- use the elements of art, principles of design and a variety of processes in creating artworks
- apply organizational structures and describe what makes them effective or not effective in communicating ideas
- identify and analyze the use of elements of art (e.g., line, shape, color properties, color schemes/groups, form, texture, space, value) and principles of design (e.g., repetition, emphasis, pattern, balance, contrast, rhythm, proportion, movement) in a variety of two and three dimensional artworks
- identify a variety of subject matter in visual artworks (representational – e.g., landscape, portrait, still life, nonrepresentational – e.g., abstract, non-objective)

Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

Academic Expectations

2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

Grade 8 Skills and Concepts – Music

Students will

- describe and analyze distinguishing characteristics of music representing a variety of world cultures and time periods (Early American through Civil War)
- listen to, perform and classify music representing a variety of world cultures and historical periods
- examine music from various world cultures and explain how music reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how music has directly influenced society or culture
- examine music from various time periods and explain how the influence of time and place are reflected in the music (e.g., (African influence in American music)

Grade 8 Skills and Concepts – Dance

Students will

- describe and analyze distinguishing characteristics of dance representing a variety of world cultures and time periods (Early American through Civil War)
- observe, classify and perform dance representing a variety of world cultures and historical periods
- examine dance from various world cultures and explain how dance reflects the culture, cultural beliefs or blending of cultures; use examples to illustrate how dance has directly influenced society or culture
- examine dance from various time periods and explain how the influence of time and place are reflected in the dance

Big Idea: Humanity in the Arts – Continued

Grade 8 Skills and Concepts – Drama/Theatre
Students will

- describe and analyze distinguishing characteristics of dramatic work representing a variety of world cultures and time periods (Early American through Civil War)
- observe, classify and perform dramatic works representing a variety of world cultures and historical periods
- examine dramatic works from various world cultures and explain how dramatic works reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how dramatic works have directly influenced society or culture
- examine dramatic works from various time periods and explain how the influence of time and place are reflected in them
- use print and non-print sources to explore, describe and compare themes, characters, and situations in dramas and characteristics of theater from different cultures or time periods

Grade 8 Skills and Concepts – Visual Arts
Students will

- describe and analyze distinguishing characteristics of visual art representing a variety of world cultures and time periods (Early American through Civil War)
- observe, classify and create visual art according to styles and processes used in a variety of world cultures and historical periods
- examine visual artworks from various world cultures and explain how artworks reflect the culture, cultural beliefs or blending of cultures; use examples to illustrate how artworks have directly influenced society or culture
- examine visual artworks from various time periods and explain the influence of time and place that are reflected in them (e.g., European Neo-classical influences on architecture)
- use print and non-print sources to explore, describe and compare themes, characters, and situations in artworks from different cultures or time periods

Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

Grade 8 Skills and Concepts – Music

Students will

- compare and explain purposes for which music is created to fulfill (ceremonial, recreational, artistic expression)
- create new, listen to, choose and perform music to fulfill a variety of specific purposes

Grade 8 Skills and Concepts – Dance

Students will

- compare and explain purposes for which dance is created (ceremonial, recreational, artistic expression)
- create new, observe, choose and perform dance to fulfill a variety of specific purposes

Grade 8 Skills and Concepts – Drama/Theatre

Students will

- compare and explain purposes for which drama/theatre is created (sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- create or write new, observe, choose and perform dramatic works to fulfill a variety of specific purposes

Grade 8 Skills and Concepts – Visual Arts

Students will

- compare and explain purposes for which visual art is created (ceremonial, artistic expression, narrative, functional, persuasive)
- create new, choose and experience artworks created to fulfill a variety of specific purposes

Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present, and for the value of artistic expression.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

Grade 8 Skills and Concepts – Music

Students will

- be actively involved in creating, notating, improvising and performing music (e.g., similar style answers to musical phrases, variations on given melodies, demonstrating unity/variety, tension/release, and balance) alone and with others
- use knowledge of musical elements and a variety of sound sources to create and perform music in an expressive manner
- sing or play alone and with others examples of music with increasingly complex melodies and rhythmic patterns in treble and bass clef (with practice)
- use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

Big Idea: Processes in the Arts – Continued

Grade 8 Skills and Concepts – Dance
Students will

- be actively involved (individually and in small groups) in creating and performing dance (using the elements of dance: space, time and force) in a variety of compositional forms (AB, ABA, call and response, or narrative)
- create an improvisational dance with complex movements (beginning, middle and end)
- use knowledge of dance elements to create and perform dance in an expressive manner
- use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify and apply criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

Grade 8 Skills and Concepts – Drama/Theatre
Students will

- be actively involved in creating, improvising and performing dramatic works alone and with others, using elements of drama (Literary, Technical, Performance)
- use knowledge of elements of drama to:
  - create and perform dramatic works in an expressive manner
  - describe and critique their own performances and the performances of others
- use a variety of resources (e.g., research, peers, technology) to:
  - write, refine, and record dialogue, monologues, and action
  - explore jobs/careers (e.g., playwright, director, actor) and skills associated with dramatic arts (theater, dramatic media)
- identify and apply criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest, technical requirements: lighting, sound, scenery, costumes, make-up)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

Grade 8 Skills and Concepts – Visual Arts
Students will

- be actively involved in selecting media, techniques, subject matter and processes for creating artworks for specific purposes, applying the elements of art and principles of design
- use knowledge of the elements and principles of art and art terminology to:
  - create expressive artworks
  - describe and critique their own work creations and the creations of others
- identify and apply criteria for evaluating visual (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of the artwork being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art (e.g., personal experience, interest, medium used, effectiveness of message)

Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

Grade 8 Skills and Concepts – Arts

Students will

- recognize and discuss common terms and concepts used in various arts (e.g., tempo in dance and music)
- identify communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- describe commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

MIDDLE LEVEL ENGLISH LANGUAGE ARTS

Program of Studies – English/Language Arts – Sixth Grade

The English/Language Arts (ELA) content standards at the sixth grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

Reading: The five Big Ideas of Reading in sixth grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for sixth grade students.

Writing: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

Speaking, Listening and Observing: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

1.2 Students make sense of the variety of materials they read.

1.3 Students make sense of the various things they observe.

1.4 Students make sense of the various messages to which they listen.

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- knowing how to apply phonetic principles, context clues, and orthographic patterns (including structural analysis, analogizing, and spelling patterns) can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, and proper phrasing and expression, while attending to text features.
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, and context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

Grade 6 Skills and Concepts

Students will

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material -- orally and silently- with automaticity (accuracy and fluency, phrasing, expression, and attention to text features
- use a variety of reading strategies to understand vocabulary and texts:
  formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, differences in meaning, or simple analogies to assist comprehension
  - interpret and explain literal and non-literal meanings of words or phrases, based on context
  - identify syllables and parts of words (e.g., prefixes, suffixes, base words, common roots) and apply their meanings to comprehend unfamiliar words
  - describe words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information (e.g., dates, places); skim to get the general meaning of a passage
- use resources (e.g., dictionaries, glossaries, thesauruses) to identify multiple meanings of words, content-specific meanings of words, and precise use of vocabulary

Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multi-cultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features, and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

Big Idea: Developing an Initial Understanding (Reading) – Continued

Grade 6 Skills and Concepts
Students will

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, classification, logical/sequential), to aid in comprehension
- distinguish between fiction and non-fiction texts
- explain the meaning of concrete or abstract terms, based on the context (e.g., “loaded” words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths; make text-based inferences; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify characteristics of different types of literary texts (e.g., stories, poems, plays, folktales, historical fiction, realistic fiction, mysteries, science fiction, myths, legends)
  - identify and explain the main idea of a passage
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from texts to accomplish a specific task or answer questions
  - use text features and visual information (e.g., maps, charts, graphs , timelines, visual organizers) to understand texts

Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and document). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- interpretations of text involve linking information across parts of a text, determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

Big Idea: Interpreting Text (Reading) – Continued

Grade 6 Skills and Concepts
Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, description, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme and supporting evidence
- record and organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizer, outlining, note taking)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze how external conflicts are resolved

  identify use of author's craft as appropriate to genre (e.g., rhyme, alliteration, sensory images, simile, description, dialogue)
  - explain the relationship between events in a story and a character's behavior
  - identify details that support the main idea or explain their importance in a passage
- demonstrate understanding of informational passages/texts

  distinguish between informative and persuasive passages
  - identify use of persuasive techniques (e.g., emotional/ logical appeal, repetition) or propaganda techniques (e.g., testimonial, bandwagon)
  - use evidence/references from the text to state central/main idea and details that support them; explain the importance of details in a passage
  - distinguish between facts and opinions found in texts
  - explain the purposes of text features in different types of informational texts

Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections can be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas, making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

Grade 6 Skills and Concepts

Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self select texts based on personal interests
- use evidence from text(s) to generate a personal response to what is read or viewed:
  - relate texts to prior knowledge, personal experiences, other texts or ideas
  - provide text references/evidence to support connections (text-to-self, text-to-text, text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- reading is a process that includes applying a variety of strategies to comprehend, interpret and evaluate texts; showing evidence of responsible warranted interpretations of texts; and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to critically consider messages provided through a variety of media in order to make informed decisions.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills.

Grade 6 Skills and Concepts

Students will

- analyze how text features organize information for clarity or for usefulness
- identify the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential) and explain how it helps in understanding the passage (e.g., organizing key ideas) and meeting the author's purpose
- evaluate what is read based on the author's purpose, message ,word choice, sentence variety, content, or use of literary elements
- form and support judgments/opinions about central ideas
- interpret the interactions among literary elements
- explain the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make connections and synthesize information within and across texts (e.g., comparing themes, ideas, concept development)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret, and analyze information from multiple sources by synthesizing arguments or claims to discover the relationship between the parts
- evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

Academic Expectations

1.1 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- there are many reasons for all students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g., personal narrative, informational reports/articles, poetry, response to text).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

Grade 6 Skills and Concepts

Students will

- write to learn by applying strategies effectively (e.g., learning logs, response journals)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, test answers, on-demand, research reports)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining, persuading, analyzing)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal) for intended audience
- communicate purpose, focus, and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research, reading, discussion, other content areas), explaining reflections or related connections (e.g., identifying relationships, drawing conclusions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

Grade 6 Skills and Concepts

Students will

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer, cause/effect, compare/contrast, chronology)
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, table of contents, white space, pictures, labels, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

Academic Expectations

1.1 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard or unconventional grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

Grade 6 Skills and Concepts

Students will

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., affect/effect, a lot)
- apply non-standard or unconventional language for intended effect appropriate to purpose
- use resources (e.g., dictionary, glossary, word processing programs) and apply knowledge of spelling rules to correct spelling in final drafts
- use resources (e.g., word processing programs, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text; listing print and non-print sources) when paraphrasing, summarizing, quoting or using graphics

Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g. in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

Grade 6 Skills and Concepts

Students will

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print/ non-print/ electronic sources, note-taking, interviewing, observation, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using digital presentation and graphics (e.g. charts and tables)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

Academic Expectations

1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various messages they observe.
1.4 Students make sense of the various messages to which they listen.
1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- communication, both formal and informal is an interpretive process that integrates listening, observing/viewing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

Grade 6 Skills and Concepts

In formal speaking situations, students will

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support ideas with sound evidence and appropriate details
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction, body, transitions, and a conclusion that are appropriate to audience, context and purpose
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, and figurative language)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., posture, gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics, or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

Big Idea: Speaking, Listening and Observing - Continued

Grade 6 Skills and Concepts – Continued
Students will
In informal speaking situations, students will

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g. small and large group settings, discussions)

When listening, students will

- follow spoken instructions to perform specific tasks
- identify the controlling idea of a speech and key ideas that support it
- respond critically (describe the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways by summarizing, taking useful notes, organizing, analyzing, or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues)
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

When observing, students will

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret use of a variety of techniques used in advertising
- identify the effective use of visual and auditory cues (e.g., cutaway, close-up or long shot, voiceover, sound effects) to enhance the message or understand context

Program of Studies – English/Language Arts – Seventh Grade

The English/Language Arts (ELA) content standards at the seventh grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

Reading: The five Big Ideas of Reading in the seventh grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for seventh grade students.

Writing: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

Speaking, Listening and Observing: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

1.2 Students make sense of the variety of materials they read.

1.3 Students make sense of the various things they observe.

1.4 Students make sense of the various messages to which they listen.

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 7 Enduring Knowledge– Understandings

Students will understand that

- knowing how to apply phonetic principles, context clues, and orthographic patterns (including structural analysis, analogizing, and spelling patterns) can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features.
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, and context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

Grade 7 Skills and Concepts

Students will

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material -- orally and silently -- with automaticity (accuracy and fluency phrasing, expression, and attention to text features – e.g., punctuation, italics, dialogue)
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, shades of meaning, or analogies to assist comprehension
  - interpret the meaning of jargon, dialect or specialized vocabulary used in a passage
  - interpret and explain literal and non-literal meanings of words or phrases, based on use in context
  - identify syllables and parts of words (e.g., prefixes, suffixes, base words, common roots) and apply their meanings to comprehend unfamiliar words
  - describe words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information; skim to get the general meaning of a passage
- use print and electronic resources (e.g., print and electronic dictionaries, glossaries, thesauruses) to determine the definition, pronunciation, etymology, spelling, usage of words, multiple meanings of words, and content specific-meanings of words

Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

Grade 7 Skills and Concepts

Students will

- use comprehension strategies (e.g., using prior knowledge, predicting, generating, clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid in comprehension
- explain the meaning of concrete or abstract terms, based on the context (e.g., "loaded" words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths
- make text-based inferences; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify characteristics of different types of literary texts (e.g., short stories, poems, plays, historical fiction, realistic fiction, mysteries, science fiction, myths)
  - identify and explain the main idea of a passage
- demonstrate understanding of informational passages/texts :
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from text to accomplish a specific task or to answer questions
  - use text features and visual information (e.g., maps, charts, graphs, timelines, visual organizers) to understand texts

Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- interpretations of text involve linking information across parts of a text, determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

Grade 7 Skills and Concepts

Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme, and supporting evidence
- organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizers, outlining, note taking)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze how external conflicts or internal conflicts are resolved
  - explain author's craft as appropriate to genre
  - analyze the relationship between events in a story and a character's behavior
  - identify details that support the main idea and explain their importance in a passage
- demonstrate understanding of informational passages/texts
  - distinguish between informative or persuasive passages
  - identify use of persuasive techniques (e.g., logical/emotional/ethical appeal, repetition, rhetorical question) and propaganda techniques (e.g., testimonial, bandwagon)
  - use evidence/references from the text to state central/main idea and details that support them; explain the importance of details in a passage
  - understand cause-effect inferences
  - distinguish between facts and opinions found in texts
  - explain the purposes of text features in different types of informational texts

Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- making reader-text connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas, making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

Grade 7 Skills and Concepts

Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self-select texts based on personal interests
- use evidence from text(s) to formulate and justify opinions about what is read or viewed:
  relate texts to prior knowledge, personal experiences, other texts or ideas
  provide text references/evidence to support connections (e.g., text–to-self, text-to-text, or text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre in order to respond and make connections (text–to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- reading is a process that includes applying a wide variety of strategies to comprehend, interpret, and evaluate texts; showing evidence of responsible and warranted interpretations of text; and examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to analyze a wide variety of media messages related to matters of public policy and personal interest.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills.

Grade 7 Skills and Concepts

Students will

- analyze how effectively text features organize information for clarity or for usefulness
- apply knowledge of the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential, problem/solution) and explain how it helps in understanding the passage and meeting the author's purpose
- evaluate what is read, based on the author's word choice, sentence variety, content, tone and style, or use of literary elements
- form and support judgments/opinions about central ideas
- interpret the interactions among literary elements within and across a variety of texts
- explain the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make comparisons and synthesize information within and across texts (e.g., comparing themes, ideas, concept development, literary elements, events)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret, and analyze information from multiple sources by synthesizing arguments or claims to discover the relationship between the parts
- evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- there are many reasons for all students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g. editorials, self-reflective essays, summaries, responses to text).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

Grade 7 Skills and Concepts

Students will

- write to learn by applying strategies effectively (e.g., learning logs, exit/admit slips)
- write to demonstrate learning and understanding of content knowledge (e.g., class journals, explanations, lab reports, research paper)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining, persuading, analyzing)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal, business) for intended audience
- communicate purpose, focus and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research, reading, discussions, or other content areas), explaining reflections or related connections (e.g., identifying relationships, drawing conclusions, making predictions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

Academic Expectations

1.1 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

Grade 7 Skills and Concepts

Students will

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer, cause/effect, compare/contrast, chronology)
- apply structures of a variety of academic and work-related texts (e.g., essays, journals, narratives, business letter) for authentic purposes
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude the writing effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, table of contents, white space, pictures, labels, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard/unconventional grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

Grade 7 Skills and Concepts

Students will

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., affect/effect, who/whom)
- apply non-standard/unconventional language for intended effect appropriate to purpose
- use print and electronic resources (e.g., word processing, dictionary) and apply knowledge of spelling rules to correct spelling in final drafts
- use print and electronic resources (e.g., word processing, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text; citing print and non-print sources in a Works Cited or bibliography listing) when paraphrasing, summarizing, quoting or using graphics

Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

Grade 7 Skills and Concepts

Students will

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print/ non-print/ electronic sources, note-taking, interviewing, observation, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using digital presentations and graphics (e.g. charts and tables) when developmentally appropriate
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding idea, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

Academic Expectations

1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various messages they observe.
1.4 Students make sense of the various messages to which they listen.
1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- communication, both formal and informal is an interpretive process that integrates listening, observing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

Grade 7 Skills and Concepts

In formal speaking situations, students will

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support ideas with sound evidence and appropriate details
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction, body, transitions and a conclusion that are appropriate to audience, context and purpose
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, and figurative language, use of rhetorical devices)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., posture, gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

Big Idea: Speaking, Listening and Observing – Continued

Grade 7 Skills and Concepts – Continued
Students will
In informal speaking situations, students will

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g. small and large group settings, discussions)

When listening, students will

- follow spoken instructions to perform specific tasks
- identify the controlling idea of a speech and key ideas that support it
- respond critically (e.g., analyze the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways by summarizing, taking useful notes, organizing, analyzing, or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

When observing, students will

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, bias, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret use of a variety of techniques used in advertising
- identify the effective use of visual and auditory cues (e.g., cutaway, close-up or long shot, voiceover, sound effects) to enhance the message or understand context

Program of Studies – English/Language Arts – Eighth Grade

The English/Language Arts (ELA) content standards at the eighth grade level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar at each grade level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes that allow for integrated, interdisciplinary or multidisciplinary programs.

Reading: The five Big Ideas of Reading in eighth grade are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text and Demonstrating a Critical Stance. Literary texts include a range of genres, historical periods, and cultures. Students should be exposed to the greatest works of literature in English and other literature in translation to understand our common literary heritage and to gain an appreciation for the rich literary traditions from all cultures. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society. ELA courses should present a wide range of reading experiences with print and non-print materials that have literary and informational purposes. Informational texts include expository, persuasive, and procedural texts and documents. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. The complexity of texts selected for instruction should be appropriate for eighth students.

Writing: ELA standards in writing are divided into the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

Speaking, Listening and Observing: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

1.2 Students make sense of the variety of materials they read.

1.3 Students make sense of the various things they observe.

1.4 Students make sense of the various messages to which they listen.

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- knowing how to apply phonetic principles, context clues, and orthographic patterns (including structural analysis, analogizing and spelling patterns) can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features.
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary, the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, and context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

Grade 8 Skills and Concepts

Students will

- apply context and self-correction strategies while reading
- make predictions while reading
- read grade-appropriate material -- orally and silently -- with automaticity (accuracy and fluency, phrasing, expression, and attention to text features)
- use a variety of reading strategies to understand vocabulary and texts:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies to determine pronunciations or meanings of words in passages
  - apply knowledge of synonyms, antonyms, homonyms/homophones, shades of meaning, or analogies to assist comprehension
  - interpret the meaning of jargon, dialect, or specialized vocabulary used in a passage
  - interpret and explain literal and non-literal meanings of words or phrases, analogies, idioms and allusions, based on use in context
  - apply knowledge of synonyms, antonyms, word parts (e.g., roots, affixes , cognates)
  - explain and organize words in terms of categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
  - scan to find specific key information; skim to get the general meaning of a passage
- use print and electronic resources (general and specialized dictionaries, thesauruses, glossaries) to determine the definition, pronunciation, etymology, spelling, usage of words, multiple meanings of words, content-specific meanings of words, or meanings of derivational roots

Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

Grade 8 Skills and Concepts

Students will

- use comprehension strategies (e.g., using prior knowledge, generating clarifying, literal and inferential questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition/support, description, classification, logical/sequential) to aid in comprehension
- explain the meaning of concrete or abstract terms, based on the context (e.g., "loaded" words, connotation, denotation)
- paraphrase and summarize information from texts of various lengths
- make text-based inferences; draw conclusions based on what is read
- demonstrate understanding of literary elements and literary passages/texts:
  - identify and explain characteristics of different types of literary texts (e.g., myths, epics, poems, novels, dramas)
  - explain the main idea of a passage
- demonstrate understanding of informational passages/texts:
  - locate key ideas, information, facts or details
  - use information from text to state and support central/main idea
  - use information from text to accomplish a specific task or answer questions
  - use text features and visual information (e.g., maps, charts, graphs, time lines, visual organizers) to understand texts

Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- interpretations of text involve linking information across parts of a text, determining importance of the information presented.
- references from texts provide evidence to support conclusions drawn about the message, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

Big Idea: Interpreting Text (Reading) – Continued

Grade 8 Skills and Concepts
Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., chronology, cause/effect, compare/contrast, proposition and support, description, classification, logical/sequential) to aid comprehension
- use text references to explain author's purpose, author's message or theme, and supporting evidence
- organize ideas to show understanding of central ideas and interrelationships (e.g., charting, mapping, graphic organizers, outlining, note taking)
- demonstrate understanding of literary elements and literary passages/texts:
  - analyze how external or internal conflicts are resolved
  - explain author's craft (e.g., stanzas, rhythm, foreshadowing, flashbacks, symbolism) as appropriate to genre
  - analyze the relationship between a speaker's or character's motivation and behavior in a passage, as revealed by the dilemmas
  - analyze the use of details that support the main idea and explain their importance in a passage
- demonstrate understanding of informational passages/texts
  - identify and explain use of persuasive techniques (e.g., logical/emotional/ethical appeal**,** repetition, rhetorical question, allusion) and propaganda techniques (e.g., testimonial, bandwagon, transfer, personal attack)
  - use evidence/references from the text to state central/main idea and details that support them; or analyze the importance of details used in a passage
  - understand cause-effect inferences
  - identify an author's arguments and identify evidence from the passage to support the author's argument
  - distinguish between facts and opinions found in texts
  - explain the purposes of text features in different types of informational texts

Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying idea, making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

Grade 8 Skills and Concepts

Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts to make connections
- self-select texts based on personal interests
- use evidence from text(s) to formulate and justify opinions about what is read or viewed:
  - relate texts to prior knowledge, personal experiences, other texts, or ideas
  - provide text references/evidence to support connections (text-to-self, text-to-text, text-to-world)
- read a wide range of texts, including texts by the same author, about the same subject or theme, or from the same genre in order to respond and make connections (text-to-self, text-to-text, text-to-world)
- demonstrate participation in a literate community by sharing and responding to ideas and connections with others through writing and in-depth discussions about texts

Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- reading is a process that includes applying a wide variety of strategies to comprehend, interpret, and evaluate texts; showing evidence of warranted and responsible interpretations of text; examining texts critically.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.
- all citizens need to analyze a wide variety of media messages in order to interpret matters of public policy and personal interest.
- judging the credibility of sources, evaluating arguments, and understanding and conveying information are essential skills needed for postsecondary education, the workplace, and in exercising the rights of citizenship.

Grade 8 Skills and Concepts

Students will

- analyze how effectively text features organize information for clarity or for usefulness
- identify the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast, logical/sequential, problem/solution, proposition/support) and explain how it helps in understanding the passage and meeting the author's purpose
- evaluate what is read based on the author's purpose, message, word choice, sentence variety, content, tone, style or use of literary elements
- form and support judgments/opinions about central ideas
- interpret the interactions among literary elements within and across a variety of texts
- analyze the effectiveness of literary devices or figurative language in evoking what the author intended (e.g., picturing a setting, predicting a consequence, establishing a mood or feeling)
- make comparisons and synthesize information within and across texts (e.g., comparing themes, ideas, concept development, literary elements, events)
- evaluate the accuracy of information presented in texts
- evaluate arguments, interpret and analyze information from multiple sources by synthesizing arguments or claims to discover the relationship between the parts
- identify claims and evidences and evaluate connections among evidences and inferences
- evaluate the quality of evidence used to support or oppose an argument
- evaluate the use of persuasive or propaganda techniques
- recognize faulty reasoning and false premises in an argument

Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- there are many reasons for all students to write including writing-to-learn, writing-to-demonstrate learning and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g. speeches, on-demand responses, persuasive essays, plays).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

Grade 8 Skills and Concepts

Students will

- write to learn by applying strategies effectively (e.g., learning logs, reflections)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, open responses, lab reports, research reports)
- write for a variety of authentic purposes and audiences:
  - communicate about the significance of personal experiences and relationships
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. explaining, persuading, analyzing, evaluating)
  - analyze and communicate reflectively about literacy goals
  - analyze and address needs of intended audience
  - adjust the writing style (formal, informal, business) for intended audience
- communicate purpose, focus, and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing
- select and incorporate ideas or information (e.g., from research, reading or other content areas), explaining reflections or related connections (e.g., identifying interrelationships, drawing conclusions, making predictions, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of a complex idea or event from multiple perspectives
- provide sufficient details and appropriate depth of elaboration for clear understanding
- use and sustain suitable voice or tone

Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures are appropriate for different purposes, audiences and different forms of writing. Paragraphs and whole texts must be unified and coherent.
- structural elements such as context, meaningful order of ideas, transitional elements and conclusion all help make meaning clear for the reader.

Grade 8 Skills and Concepts

Students will

- use complete and correct sentences of various structures and lengths (e.g., simple, compound, complex) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, description, cause/effect, compare/contrast, chronology, proposition/support)
- apply structures of a variety of academic and work-related texts (e.g., essays, journals, narratives, memos, proposals) for authentic purposes
- establish a context for the reader and a controlling idea in the introduction; develop the piece sufficiently, arranging ideas in meaningful order; and conclude the writing effectively
- create unified and coherent paragraphs; apply paragraph structures (block and indented) consistently and appropriately
- use a variety of transitions and/or transitional elements (e.g., ellipses, time transitions, white space) with intent
- apply organizational devices (e.g., foreshadowing, flashback) to achieve intended effect on audience
- incorporate text features (e.g., bullets, subheadings, table of contents, white space, pictures, labels, diagrams, embedded visuals, charts, shape in poetry) to enhance clarity and meaning

Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; non-standard/unconventional grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources/give credit for the ideas of others.

Grade 8 Skills and Concepts

Students will

- choose precise and descriptive language for clarity, richness and/or its effect on the reader (words with multiple meanings, words that imply different shades of meaning, words with literal and non-literal meanings, strong nouns and verbs, concrete and sensory details, figurative language – metaphors, similes, alliteration, personification)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject and verb agreement, pronoun antecedent agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., of/have, can/may)
- apply non-standard/unconventional language for intended effect appropriate to purpose
- use print and electronic resources (e.g., word processing, dictionary, handbooks) and apply knowledge of spelling rules to correct spelling in final drafts
- use print and electronic resources (e.g., word processing, thesaurus) to adhere to standard guidelines for grammar, usage and mechanics
- document ideas used from outside sources (e.g., citing authors or titles within the text, citing print and non-print sources in a Works Cited or bibliography listing) when paraphrasing, summarizing, quoting or using graphics

Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., in the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

Grade 8 Skills and Concepts

Students will

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., journaling, webbing, free writes, researching print/ non-print/ electronic sources, note-taking, interviewing, observation, viewing, surveying, imagining and creating novel ideas)
  - organize and present ideas by taking notes, quoting, paraphrasing, summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, charts, diagrams, photographs) or technologies (e.g., digital images, video) in lieu of or in addition to written communication
  - logically introduce and incorporate quotes
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is coherent and effective for intended audience, then make revisions
  - identify and develop topic sentences, making sure ideas are supported appropriately with relevant details and that sentences are in sequential order; insert new sentences and delete unnecessary ones; develop effective introductions and conclusions; eliminate redundant words; choose the most precise words available
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and proper documentation of sources
- publish to produce products for intended audience:
  - present written material using digital presentation and graphics (e.g. charts and tables)
  - present final work in a neat, legible form
- reflect and evaluate personal progress and skills in writing

Big Idea: Speaking, Listening and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

Academic Expectations

1.2 Students make sense of the variety of materials they read**.**
1.3 Students make sense of the various messages they observe.
1.4 Students make sense of the various messages to which they listen.
1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- communication, both formal and informal is an interpretive process that integrates listening, observing/viewing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

Big Idea: Speaking, Listening and Observing – Continued

Grade 8 Skills and Concepts

In formal speaking situations, students will

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - support judgment with sound evidence and appropriate details
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction, body, transitions and a conclusion appropriate to audience, context and purpose
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, and figurative language, use of rhetorical devices)
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, inflection, pacing) and nonverbal (e.g., posture, gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics, or use non-standard language for effect when appropriate (e.g., word plays, common figures of speech)
- use visual aids, media and tools of technology to support oral communication
- document ideas from outside sources (e.g., citing authors, titles, websites)

In informal speaking situations, students will

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to enrich class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)

When listening, students will

- follow spoken instructions to perform specific tasks
- identify the controlling idea of a speech and key ideas that support it
- respond critically (e.g., analyze the style of a speech, including the speaker's choice of language to evoke a response, evaluate conclusions, credibility of information presented)
- respond to information in a variety of ways by: summarizing, taking useful notes, organizing, analyzing, or recording that which is meaningful and useful
- respond appropriately/respectfully (e.g., ask questions, respond with civility/respect)
- follow the organization of a presentation and recognize the speaker's use of transitions
- interpret and evaluate the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute relevant information or ideas
- use self-evaluations and feedback from teachers and peers to improve presentations

When observing, students will

- use a variety of criteria (e.g., clarity, accuracy, effectiveness, bias, relevance of facts) to evaluate media
- evaluate the role of media in focusing attention and in forming opinion
- interpret a variety of techniques used in advertising
- identify and analyze the effectiveness of visual and auditory cues (e.g., cutaway, close-up or long shot, voiceover, sound effects) to enhance the message or understand context

MIDDLE LEVEL MATHEMATICS

Program of Studies – Mathematics – Sixth Grade

The mathematics program in grade six includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade six problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the sixth grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards mentioned in the first paragraph.

Problem solving includes multiple strategies for modeling, interpreting and formulating problems based in real-world situations, within and outside of mathematics, and aids in investigating and understanding mathematical content.

Mathematical communication includes modeling problems using oral, written, concrete, visual, graphical and algebraic methods to define, interpret and argue mathematical ideas. Mathematical communication includes mathematical symbolic notation (letters and marks used in mathematics to name numbers, operations, sets, relations).

Mathematical connections include relating mathematical ideas within mathematics and to other disciplines using graphic, numerical, physical, algebraic and verbal models.

Mathematical reasoning includes inductive and deductive reasoning necessary in developing conjectures and validating arguments.

Multiple representations allow students to be able to recognize common mathematical structures across different contexts. In the middle grades, students can use representations for more abstract concepts, such as rational numbers or linear relationships, or to portray, clarify, or extend an idea.

Academic Expectation 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

Academic Expectation 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

Big Idea: Number Properties and Operations

Middle grades students understand fractions, decimals, percents and integers, compare them and locate their relative positions on a number line. They develop and use proportional reasoning to solve problems. They work with large numbers and small numbers. They use factors, multiples and prime factorizations. They perform arithmetic operations with fractions, decimals and integers, use properties in computation, develop fluency and develop strategies to estimate the result of operations on rational numbers.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates with fractions, decimals and whole numbers increases the ability to solve realistic problems encountered in everyday life.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

Grade 6 Skills and Concepts – Number Sense

Students will

- continue to develop number sense using fractions, decimals and percents, including percents greater than 100% and improper fractions
- extend applications of operations $(+, -, \times, \div)$ to include fractions and decimals
- develop place value of large and small numbers, including decimals
- explore positive integral exponents (e.g. squares, cubes)
- compare, order and convert between whole numbers, fractions, decimals and percents using concrete materials, drawings or pictures and mathematical symbols (e.g., $<, \leq, >, \geq, =, \neq$, order on a number line)

Grade 6 Skills and Concepts – Estimation

Students will

- estimate and mentally compute to solve real-world and/or mathematical problems with whole numbers, fractions, decimals and percents, checking for reasonable and appropriate computational results
- estimate large and small quantities of objects

Big Idea: Number Properties and Operations – Continued

Grade 6 Skills and Concepts – Number Operations
Students will

- develop addition, subtraction, multiplication and division of common fractions and decimals with manipulatives and symbols (e.g., mental computation, paper and pencil, calculators)
- add, subtract, multiply, divide and apply order of operations with whole numbers, fractions and decimals to solve real-world problems
- explain and/or demonstrate inversely-related operations (addition and subtraction; multiplication and division)

Grade 6 Skills and Concepts – Ratios and Proportional Reasoning
Students will

- develop meaning of percent and how to determine a percentage
- develop meaning of ratio (e.g., describe and compare two sets of data using ratios and appropriate notations: 3:5, $\frac{3}{5}$, 3 to 5)
- define and apply ratios to solve real-world problems

Grade 6 Skills and Concepts – Properties of Numbers and Operations
Students will

- determine prime numbers, composite numbers, prime factorization, factors, multiples, greatest common factor and least common multiple
- simplify fractions and determine equivalent fractions
- use prime numbers, composite numbers, factors, multiples and divisibility to solve problems
- explore and/or demonstrate how applications of properties (e.g., commutative, associative, inverse and identity for addition and multiplication) show relationships among numbers and operations

Big Idea: Measurement

Students continue to measure and estimate measurements including fractions and decimals. They use formulas to find perimeter, area, circumference and volume. They use rulers and protractors. They use U.S. Customary and metric units of measurement.

Academic Expectations

2.10 Students understand measurement concepts and use measurements appropriately and accurately.

2.11 Students understand mathematical change concepts and use them appropriately and accurately.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

Grade 6 Skills and Concepts – Measuring Physical Attributes

Students will

- find perimeter of regular and irregular polygons in metric and U.S. customary units
- read and use measurement tools (e.g., rulers, scales, protractors, angle rulers)
- find area of plane figures composed of triangles, squares and rectangles by subdividing and measuring; use square units appropriately
- estimate and find angle measures and segment measures
- estimate measurements in standard units, including fractions and decimals
- explain how measurements and measurement formulas are related or different (e.g., compare the perimeter with the area of a rectangle)

Grade 6 Skills and Concepts – Systems of Measurement

Students will

- describe and provide examples of U.S. Customary and metric units of measurement; use these units to solve real-world and/or mathematical problems
- estimate, compare and convert (meaning to make ballpark comparisons/not memorize conversion factors between U.S. and metric) units of measurement for length, weight/mass and volume/capacity within the U.S. customary system and within the metric system:
  - length (e.g., parts of an inch, inches, feet, yards, miles, millimeters, centimeters, meters, kilometers);
  - weight/mass (e.g., pounds, tons, grams, kilograms);
  - volume/capacity (e.g., cups, pints, quarts, gallons, milliliters, liters)

Big Idea: Geometry

Middle grade students expand analysis of two-dimensional shapes and three-dimensional shapes. They translate shapes in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

Academic Expectation

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape, but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

Grade 6 Skills and Concepts – Shapes and Relationships

Students will

- formulate and use the rules for the sum of angle measures in a triangle (180˚) and in a quadrilateral (360˚)
- identify and use relationships among lines (e.g., parallel, perpendicular)
- identify, describe and provide examples of the basic geometric elements (points, rays, lines, segments, angles [acute, right, obtuse], planes, radius, diameter, circumference)
- identify, describe and provide examples and properties of two-dimensional figures (circles, triangles [acute, right, obtuse, scalene, isosceles, equilateral], quadrilaterals, regular polygons); apply these properties and figures to solve real-world problems
- describe, provide examples of and identify properties (e.g., vertices, angles, faces, edges, congruent parts) of common three-dimensional figures (spheres, cones, cylinders, prisms and pyramids)
- describe and provide examples of congruent and similar plane figures; apply congruent and similar plane figures to solve real-world problems

Grade 6 Skills and Concepts – Transformations of Shapes

Students will

- determine lines of symmetry for a plane figure, sketch plane figures with multiple lines of symmetry and apply line symmetry to real-world and/or mathematical situations
- transform (translate and reflect across a horizontal or vertical line) figures in the first quadrant of the coordinate plane and determine new coordinates of the shape after transformation
- explore the rotation of a figure in a plane in the first quadrant, with and without manipulatives

Grade 6 Skills and Concepts – Coordinate Geometry

Students will

- identify and graph ordered pairs on a positive coordinate system, identifying the origin, axes and ordered pairs
- apply graphing in the positive coordinate system to solve real-world and mathematical problems

Big Idea: Data Analysis and Probability

Middle grades students extend the early development of data representations and examine the appropriateness of graphs and representations of data. They examine central tendencies and dispersion. They develop organized approaches to counting and use experimental and theoretical probabilities.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.13 Students understand and appropriately use statistics and probability.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
- probability can be used to make decisions or predictions or to draw conclusions.

Grade 6 Skills and Concepts – Data Representations

Students will

- select an appropriate graph to represent given data and justify the selection
- collect, organize, construct, analyze and interpret data in a variety of graphical methods, including line plots, line graphs, circle graphs, bar graphs and stem-and-leaf plots
- compare data from various types of graphs
- relate different representations of data (e.g., tables, graphs, diagrams, plots)

Grade 6 Skills and Concepts – Characteristics of Data

Students will

- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine and apply measures of distribution (mean, median, mode, range)

Grade 6 Skills and Concepts – Experiments and Samples

- pose questions; collect, organize and display data
- explore how sample size affects the reliability of the outcome

Grade 6 Skills and Concepts – Probability

Students will

- describe or determine (e.g., tables, tree diagrams) the sample space of an event
- investigate solutions to probability problems using counting techniques, tree diagrams, charts and tables
- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine simple probabilities based on the results of an experiment and make inferences based on the data
- explore the role of probability in decision making

Big Idea: Algebraic Thinking

Middle grade students extend pattern work to include arithmetic sequences. They use linear functions and linear equations. They plot rational number pairs in the Cartesian plane. They simplify algebraic and numeric expressions. They explore the effects of change on related variables. They use and solve two-step single variable equations and inequalities.

Academic Expectations

2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.11 Students understand mathematical change concepts and use them appropriately and accurately.
2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.
- functions can be written in words, in a symbolic sentence or in a table.

Grade 6 Skills and Concepts – Patterns, Relations and Functions

Students will

- recognize, create and extend patterns (give an informal description of the continuation of a pattern and/or generalize a pattern through a verbal rule)
- represent, interpret and describe function relationships through tables, graphs and verbal rules
- organize input-output coordinate pairs into tables and plot points in the first quadrant of a coordinate (Cartesian) system/grid
- explain how the change in one quantity affects change in another quantity (e.g., in tables or graphs, input/output tables)

Grade 6 Skills and Concepts – Variables, Expressions and Operations

Students will

- explore the use of variables in expressions and equations
- substitute numerical values for variables and evaluate algebraic expressions
- describe, define and provide examples of algebraic expressions based on real-world and/or mathematical situations

Grade 6 Skills and Concepts – Equations and Inequalities

Students will

- use concrete and/or informal methods to solve equations with one variable that model real-world situations
- solve problems involving simple formulas (e.g., A=lw, D=rt)
- model and solve real-world problems with one variable equations and inequalities (e.g., $8x=4$, $x+2>5$)

Program of Studies – Mathematics – Seventh Grade

The mathematics program in grade seven includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade seven problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the seventh grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards mentioned in the first paragraph.

Problem solving includes multiple strategies for modeling, interpreting and formulating problems based in real-world situations, within and outside of mathematics, and aids in investigating and understanding mathematical content.

Mathematical communication includes modeling problems using oral, written, concrete, visual, graphical and algebraic methods to define, interpret and argue mathematical ideas. Mathematical communication includes mathematical symbolic notation (letters and marks used in mathematics to name numbers, operations, sets, relations).

Mathematical connections include relating mathematical ideas within mathematics and to other disciplines using graphic, numerical, physical, algebraic and verbal models.

Mathematical reasoning includes inductive and deductive reasoning necessary in developing conjectures and validating arguments.

Multiple representations allow students to be able to recognize common mathematical structures across different contexts. In the middle grades, students can use representations for more abstract concepts, such as rational numbers or linear relationships, or to portray, clarify, or extend an idea.

Academic Expectation 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

Academic Expectation 1.16 (Students will use computers and other kinds of technology to collect, organize and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

Big Idea: Number Properties and Operations

Middle grades students understand fractions, decimals, percents and integers, compare them and locate their relative positions on a number line. They develop and use proportional reasoning to solve problems. They work with large numbers and small numbers. They use factors, multiples and prime factorizations. They perform arithmetic operations with fractions, decimals and integers, use properties in computation, develop fluency and develop strategies to estimate the result of operations on rational numbers.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates with fractions, decimals, percents and integers increases the ability to solve realistic problems encountered in everyday life.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

Grade 7 Skills and Concepts – Number Sense

Students will

- extend number sense for percents and integers
- extend applications of operations $(+, -, \times, \div)$ to include integers
- develop number sense for π (pi) as one example of an irrational number
- use whole number exponents to represent/express numbers
- compare, order and determine equivalent relationships among fractions, decimals and percents
- provide examples of and use models, diagrams and symbols (e.g., number lines, 10 by 10 grids, rectangular arrays, number sentences) to describe and write equivalent forms of integers, fractions, decimals, percents, square roots and π

Grade 7 Skills and Concepts – Estimation

Students will

- estimate and mentally compute to solve real-world and/or mathematical problems with fractions, decimals, percents and integers, checking for reasonable and appropriate computational results
- estimate large and small quantities of objects

Grade 7 Skills and Concepts – Number Operations

Students will

- develop addition, subtraction, multiplication and division of integers both concretely and symbolically (mental, pencil and paper, calculators)
- extend concepts and application of operations with fractions and decimals to include percents
- add, subtract, multiply, divide and apply order of operations (including positive whole number exponents) with fractions, decimals and integers to solve real-world problems
- explain inversely-related operations (addition and subtraction; multiplication and division)

Big Idea: Number Properties and Operations – Continued

Grade 7 Skills and Concepts – Ratios and Proportional Reasoning
Students will

- compute percentages and use percentages in proportional reasoning
- determine and solve proportions in real-world and mathematical situations
- develop proportional reasoning and apply to real-world and mathematical problems (e.g., rates, scaling, similarity)

Grade 7 Skills and Concepts – Properties of Numbers and Operations
Students will

- identify, explain and apply properties (e.g., commutative, associative, inverse and identity for addition and multiplication; distributive)
- identify and apply prime numbers, composite numbers, prime factorization, factors, multiples and divisibility to solve real-world problems (e.g., use prime factorization to determine a least common multiple [LCM] or greatest common factor [GCF])

Big Idea: Measurement

Students continue to measure and estimate measurements including fractions and decimals. They use formulas to find perimeter, area, circumference and volume. They use rulers and protractors. They use US Customary and metric units of measurement.

Academic Expectations

2.10 Students understand measurement concepts and use measurements appropriately and accurately.

2.11 Students understand mathematical change concepts and use them appropriately and accurately.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

Grade 7 Skills and Concepts – Measuring Physical Attributes

Students will

- read and use measurement tools (e.g., rulers, scales, protractors, angle rulers)
- estimate and find angle measures and segment measures
- estimate and find circle measurements in standard units (radius, diameter, circumference, area) and relationships among them
- develop and use the formulas for area of a triangle, a parallelogram and a trapezoid and relate each to the formula for the area of a rectangle (b x h)
- determine the length of sides (to the nearest eighth of an inch or nearest centimeter), area and perimeter of triangles, quadrilaterals (rectangles, squares, trapezoids) and other polygons. (Using the Pythagorean theorem will not be required as a strategy)
- explain how measurements and measurement formulas are related or different (e.g., perimeter and area of rectangles)
- investigate and demonstrate fixed area with changing perimeter and fixed perimeter with changing area

Grade 7 Skills and Concepts – Systems of Measurement

Students will

- describe and provide examples of U.S. Customary and metric units of measurement; use these units to solve real-world and/or mathematical problems

Big Idea: Geometry

Middle grade students expand analysis of two-dimensional shapes and three-dimensional shapes. They translate shapes in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

Academic Expectation

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape, but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

Grade 7 Skills and Concepts – Shapes and Relationships

Students will

- describe, provide examples of and identify (using correct notation, label and name) the basic geometric elements (e.g., points, segments, rays, lines, angles and planes), including both real world and/or mathematical situations
- identify characteristics of angles (e.g., adjacent, vertical, corresponding, interior, exterior)
- identify properties for classifying, describe, provide examples of and identify elements (e.g., sides, vertices, angles, congruent parts) of two-dimensional figures (circles, triangles [acute, right, obtuse, scalene, isosceles, equilateral], quadrilaterals [square, rectangle, rhombus, parallelogram, trapezoid], regular and irregular polygons); apply properties of these figures to solve real-world problems
- describe, provide examples of and identify elements (e.g., vertices, angles, faces, edges, congruent parts) of common three-dimensional figures (spheres, cones, cylinders, prisms and pyramids)
- represent three-dimensional geometric objects with special attention to developing spatial sense (e.g., top view, side view, three-dimensional objects drawn on isometric dot paper)
- describe and provide examples of congruent and similar figures and apply congruent and similar figures to solve real-world problems

Grade 7 Skills and Concepts – Transformations of Shapes

Students will

- move shapes in a plane and/or in a coordinate plane (translate [slide], rotate [turn] about the origin or a vertex, reflect [flip] over a horizontal or vertical line)

Grade 7 Skills and Concepts – Coordinate Geometry

Students will

- identify and graph ordered pairs on a coordinate system, identifying the origin, axes and ordered pairs
- apply graphing in the coordinate system to solve real-world and/or mathematical problems

Big Idea: Data Analysis and Probability

Middle grades students extend the early development of data representations and examine the appropriateness of graphs and representations of data. They examine central tendencies and dispersion. They develop organized approaches to counting and use experimental and theoretical probabilities.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.13 Students understand and appropriately use statistics and probability.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
- probability can be used to make decisions or predictions or to draw conclusions.

Grade 7 Skills and Concepts – Data Representations

Students will

- collect, organize, construct, analyze and interpret data and data displays in a variety of graphical methods, including circle graphs, multiple line graphs, double bar graphs and double stem-and-leaf plots
- select an appropriate graph to represent given data and justify its use
- compare data from various types of graphs
- relate different representations of data (e.g., tables, graphs, diagrams, plots)
- read/interpret, analyze and make inferences from a box and whisker plot of data and make predictions and draw conclusions from the data
- make decisions about how misleading representations affect interpretations and conclusions about data (e.g. changing the scale on a graph)

Grade 7 Skills and Concepts – Characteristics of Data

Students will

- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine, apply and compare measures of mean, median, mode and/or range, as appropriate to the problem situation
- identify clusters, gaps and outliers within the data

Grade 7 Skills and Concepts – Experiments and Samples

- pose questions; collect, organize and display data
- explore how sample size affects the reliability of the outcome

Big Idea: Data Analysis and Probability – Continued

Grade 7 Skills and Concepts – Probability
Students will

- make predictions, draw conclusions and verify results from statistical data and probability experiments
- determine appropriate techniques to use when investigating possible outcomes of probability problems (using counting techniques, tree diagrams, area models and exhaustive organized lists, charts and tables)
- investigate and explain the role of probability in decision making
- design and conduct probability experiments
- determine theoretical (mathematical) probabilities (expressed as a ratio, decimal or percent), compare to experimental results and explain reasons why there might be differences
- explore concepts of randomness and independent events
- apply counting techniques to determine the size of a sample space

Big Idea: Algebraic Thinking

Middle grade students extend pattern work to include arithmetic sequences. They use linear functions and linear equations. They plot rational number pairs in the Cartesian plane. They simplify algebraic and numeric expressions. They explore the effects of change on related variables. They use and solve two-step single variable equations and inequalities.

Academic Expectations

2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.11 Students understand mathematical change concepts and use them appropriately and accurately.
2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.
- functions can be written in words, in a symbolic sentence or in a table.

Grade 7 Skills and Concepts – Patterns, Relations and Functions

Students will

- recognize, create and extend patterns and generalize the pattern by determining the rule for any term
- represent, analyze and generalize functional relationships (input/output) through tables, graphs and verbal rules
- organize input-output coordinate pairs into tables and plot points in all four quadrants of a coordinate (Cartesian) system/grid; interpret resulting patterns/trends
- relate tables, graphs, verbal rules and equations
- explain how the change in the input affects the change in the output (e.g., in tables or graphs)

Grade 7 Skills and Concepts – Variables, Expressions and Operations

Students will

- simplify numeric and algebraic expressions
- substitute values for variables to evaluate algebraic expressions
- describe, define and provide examples of algebraic expressions based on real-world and/or mathematical situations

Grade 7 Skills and Concepts – Equations and Inequalities

Students will

- use multiple representations to model and solve single-variable equations and inequalities
- solve problems involving formulas
- model and solve real-world problems with one- or two-step equations or inequalities (e.g., $2x+1=9$, $3x+3<9$)

Program of Studies – Mathematics – Eighth Grade

The mathematics program in grade eight includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Grade eight problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the eighth grade level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics are fundamental to mathematical literacy, mathematical power and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of the process standards mentioned in the first paragraph.

Problem solving includes multiple strategies for modeling, interpreting and formulating problems based in real-world situations, within and outside of mathematics, and aids in investigating and understanding mathematical content.

Mathematical communication includes modeling problems using oral, written, concrete, visual, graphical and algebraic methods to define, interpret and argue mathematical ideas. Mathematical communication includes mathematical symbolic notation (letters and marks used in mathematics to name numbers, operations, sets, relations).

Mathematical connections include relating mathematical ideas within mathematics and to other disciplines using graphic, numerical, physical, algebraic and verbal models.

Mathematical reasoning includes inductive and deductive reasoning necessary in developing conjectures and validating arguments.

Multiple representations allow students to be able to recognize common mathematical structures across different contexts. In the middle grades, students can use representations for more abstract concepts, such as rational numbers or linear relationships, or to portray, clarify, or extend an idea.

Academic Expectation 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

Academic Expectation 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

Big Idea: Number Properties and Operations

Middle grades students understand fractions, decimals, percents and integers, compare them and locate their relative positions on a number line. They develop and use proportional reasoning to solve problems. They work with large numbers and small numbers. They use factors, multiples and prime factorizations. They perform arithmetic operations with fractions, decimals and integers, use properties in computation, develop fluency and develop strategies to estimate the result of operations on rational numbers.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- numbers, ways of representing numbers, relationships among numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates with fractions, decimals, percents and integers increases the ability to solve realistic problems encountered in everyday life.
- proportional reasoning is a tool for modeling and solving problems encountered in everyday situations.

Grade 8 Skills and Concepts – Number Sense

Students will

- continue to develop number sense to include irrational numbers (e.g., square roots, cube roots, π)
- provide examples of, describe and compare irrational and rational numbers (e.g., magnitude, order on a number line, scientific notation, very large and very small integers, numbers close to zero)
- describe and provide multiple representations of numbers (rational, square roots, cube roots and π) in a variety of equivalent forms using models, diagrams and symbols based on real-world and/or mathematical situations

Grade 8 Skills and Concepts – Estimation

Students will

- estimate to solve real-world and/or mathematical problems with rational numbers and common irrational numbers, checking for reasonable and appropriate computational results
- estimate with large and small quantities of objects

Grade 8 Skills and Concepts – Number Operations

Students will

- add, subtract, multiply, divide and apply order of operations (including positive whole number exponents) using rational numbers to solve real-world problems
- determine and explain the inverse relationship between addition and subtraction, multiplication and division, or raising to an exponent and taking the root of a number

Big Idea: Number Properties and Operations – Continued

Grade 8 Skills and Concepts – Ratios and Proportional Reasoning
Students will

- use percentages and proportions in problem solving, including consumer applications (e.g., simple interest, percentages of increase and decrease, discounts, unit pricing, sale prices)
- derive and use formulas for various rates (e.g., distance/time, miles per hour)

Grade 8 Skills and Concepts – Properties of Numbers and Operations
Students will

- identify and use the commutative properties, the associative properties, the identity properties and the inverse properties for addition and multiplication, the distributive property and inverse relationships to justify a given step in solving problems

Big Idea: Measurement

Students continue to measure and estimate measurements including fractions and decimals. They use formulas to find perimeter, area, circumference and volume. They use rulers and protractors. They use US Customary and metric units of measurement. They use the Pythagorean theorem.

Academic Expectations

2.10 Students understand measurement concepts and use measurements appropriately and accurately.

2.11 Students understand mathematical change concepts and use them appropriately and accurately.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- there are two major measurement systems (U.S. Customary and metric) and either may be used to solve problems.
- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools, formulas and degree of accuracy needed for the situation.

Grade 8 Skills and Concepts – Measuring Physical Attributes

Students will

- read and use measurement tools (e.g., rulers, scales, protractors, angle rulers, CBL/CBRs)
- estimate and find angle measures and segment measures
- determine measures of the lengths of sides and the perimeter both regular and irregular shapes, including lengths to the nearest sixteenth of an inch or the nearest millimeter
- determine the area of triangles and quadrilaterals
- determine the area and circumference of circles
- develop and apply the Pythagorean theorem
- develop and apply formulas for volume and surface area of cubes, cylinders and right rectangular prisms; investigate relationships between and among them
- estimate measurements in standard units in real world and/or mathematical situations
- explain how measurements and measurement formulas are related or different (perimeter and area; rate, time and distance; circumference and area of a circle)

Grade 8 Skills and Concepts – Systems of Measurement

Students will

- provide examples of and apply money, time and U.S. Customary and metric units of measurement to solve real-world problems

Big Idea: Geometry

Middle grade students expand analysis of two-dimensional shapes and three-dimensional shapes. They translate shapes in a coordinate plane. They extend work with congruent and similar figures, including proportionality.

Academic Expectation

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- shape and area are conserved during mathematical transformations (flips, slides and turns). Scale conserves shape but changes size.
- visualization, spatial reasoning and geometric relationships model real-world situations.

Grade 8 Skills and Concepts – Shapes and Relationships

Students will

- describe and provide examples of basic geometric elements that include points, segments, rays, lines, angles and planes; use these elements in real-world and/or mathematical situations
- identify and compare properties of two-dimensional figures (circles; triangles: acute, right, obtuse, scalene, isosceles, equilateral; quadrilaterals: square, rectangle, rhombus, parallelogram, trapezoid; regular/irregular polygons); apply these properties and figures to solve real-world problems
- compare properties of three-dimensional figures (spheres, cones, cylinders, prisms, pyramids); apply these properties and figures to solve real-world problems
- provide examples of and apply congruent and similar two-dimensional figures to solve real-world problems
- apply proportional reasoning to solve problems involving scale models and real objects and scale drawings and similar two-dimensional figures

Grade 8 Skills and Concepts – Transformations of Shapes

Students will

- investigate the congruence, proportionality and/or similarity of pre-images and images of dilations (e.g., enlargements, reductions) in a coordinate plane
- describe, provide examples of and apply to real-world and/or mathematical situations rotational symmetry (45˚, 90º, 180º, 270º, 360º)
- rotate (clockwise or counterclockwise) shapes in a coordinate plane about the origin
- transform figures in a coordinate plane (translations, reflections and dilations [magnifications and contractions] with the center of dilation at the origin); determine the new coordinates of the image after the transformation

Big Idea: Geometry – Continued

Grade 8 Skills and Concepts – Coordinate Geometry
Students will

- identify and graph ordered pairs on a coordinate system, identifying the origin, axes and ordered pairs; apply graphing in the coordinate system to solve real-world problems
- analyze the graph of a line to determine the slope , y-intercept and equation of the line

Big Idea: Data Analysis and Probability

Middle grades students extend the early development of data representations and examine the appropriateness of graphs and representations of data. They examine central tendencies and dispersion. They develop organized approaches to counting and use experimental and theoretical probabilities.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.13 Students understand and appropriately use statistics and probability.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- for a given set of data or a graph, statistical measures (mean, median, mode, range) can be used to describe the distribution of the data.
- probability can be used to make decisions or predictions or to draw conclusions.

Skills and Concepts – Data Representations

Students will

- collect, organize, construct, analyze and make inferences from data in a variety of graphical methods (e.g., drawings, tables/charts, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs, stem-and-leaf plots, scatter plots, histograms, box-and-whiskers plots)
- select an appropriate graph to represent data and justify its use
- compare similar data from various types of graphs
- relate different representations of data (e.g., tables, graphs, diagrams, plots) and explain how misleading representations affect interpretations and conclusions about data

Big Idea: Data Analysis and Probability – Continued

Grade 8 Skills and Concepts – Characteristics of Data
Students will

- determine and interpret clusters, quartiles, gaps and outliers in data
- make predictions, draw conclusions and verify results from statistical data and probability experiments, making use of technology as appropriate
- determine and interpret the mean, median, mode and range of a set of data
- compare sets of data
- explore how statistics can be interpreted in many ways

Grade 8 Skills and Concepts – Experiments and Samples
Students will

- explain how data gathering, bias issues or faulty data analysis can affect the results of data collection, data representation and data interpretation

Grade 8 Skills and Concepts – Probability
Students will

- make predictions, draw conclusions and verify results from probability experiments or simulations, making use of technology as appropriate
- analyze situations, such as games of chance, board games or grading scales and make predictions using knowledge of probability
- identify and describe the number of possible arrangements of several objects, using a tree diagram or the basic counting principle; make a list, picture, chart or tree diagram to represent a sample space
- investigate counting techniques (e.g., networks)
- investigate and explain the role of probability in everyday decision making
- explore concepts of randomness and independent events
- determine theoretical (mathematical) probabilities (e.g., express probability as a ratio, decimal, percent, area model as appropriate for a given situation)
- compare theoretical and experimental results and explain reasons why there might be differences

Big Idea: Algebraic Thinking

Middle grade students extend pattern work to include arithmetic sequences. They use linear functions and linear equations. They plot rational number pairs in the Cartesian plane. They simplify algebraic and numeric expressions. They explore the effects of change on related variables. They use and solve two-step single variable equations and inequalities.

Academic Expectations

2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.11 Students understand mathematical change concepts and use them appropriately and accurately.
2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving.
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.
- functions can be written in words, in a symbolic sentence or in a table.

Grade 8 Skills and Concepts – Patterns, Relations and Functions

Students will

- recognize, create and extend patterns (generalize the pattern by giving the rule for the *n*th term and explain the generalization)
- represent, interpret and describe linear and simple quadratic functional relationships (input/output) through tables, graphs and symbolic rules
- organize input-output coordinate pairs into tables, plot points in all four quadrants of a coordinate (Cartesian) system/grid and interpret resulting patterns or trends using technology as appropriate
- interpret and explain relationships between tables, graphs, verbal rules and equations, using technology as appropriate
- graph linear functions in a four quadrant (Cartesian) system/grid and interpret the results, using technology as appropriate
- explain how change in the input affects change in the output (e.g., in $d=rt$, increasing the time (t) increases the distance (d))

Grade 8 Skills and Concepts – Variables, Expressions and Operations

Students will

- apply order of operations to evaluate and simplify algebraic expressions
- given a formula, substitute appropriate elements from a real-world or mathematical situation
- describe, define and provide examples of variables and expressions with a missing value based on real-world and/or mathematical situations

Grade 8 Skills and Concepts – Equations and Inequalities

Students will

- use multiple representations to model and solve one- and two-variable linear equations
- solve problems using formulas
- investigate linear inequalities using a variety of methods and representations
- model and solve real-world problems with one- or two-step equations or inequalities (e.g., $4x+2=22$, $x-4<-60$)

MIDDLE LEVEL PRACTICAL LIVING
(HEALTH AND PHYSICAL EDUCATION)

Program of Studies – Practical Living – Sixth Grade

Individuals are required to make daily decisions regarding health issues that affect their immediate and long-term health. Maintaining a health way of living requires a balance of physical, mental, emotional and social well-being. The 6th grade Health Education program provides students with knowledge skills necessary to confront health related issues and make a smooth transition from puberty to adolescence. The sixth grade health education curriculum emphasizes development of decision-making skills related to the essential areas of self-esteem, peer pressure, physical wellness, nutrition, safety and first aid, disease prevention, exercise, fitness, human growth and development, stress management, conflict resolution, substance abuse, group membership, goal setting, mental and emotional wellness, community resources and services.

Literacy in physical education means competence in movement forms, the knowledge and application of concepts and principles related to motor skills and the adoption of a healthy, physically active lifestyle. Competence in movement forms makes possible the enjoyment of participation in physical activity and establishes the foundation for continued motor skill acquisition. Increased skill acquisition, in turn, affords the student the capacity for successful and advance levels of performance that further increase the likelihood of participation in physical activity.

Students in 6th grade combine fundamental skills into more complex movement forms in modified game, dance and recreational activities. Cooperative and competitive small-group games are appropriate with an emphasis being placed on developing skills and tactical understanding. Students use feedback to initiate and maintain practice to improve skill performance. Students assess their health-related fitness status and set reasonable and appropriate goals for development, maintenance and improvement. Social interaction becomes more complex as peer pressure becomes increasingly pronounced, impacting individual performance. Students solve problems and make responsible decisions as they work together. They exhibit a physically active lifestyle at school and outside the school environment.

The Health and Physical Education content standards at the 6th grade level are directly aligned with Kentucky's **Academic Expectations**. The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

Academic Expectations

2.29 Students demonstrate skills that promote individual well-being and healthy family relationships.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
4.1 Students effectively use interpersonal skills.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- it is important to assume responsibility for personal health.
- Interactions with others are an integral part of the human life experience and contribute to healthy relationships.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family, community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal behavioral choices games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and the spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

Grade 6 Skills and Concepts – Personal and Physical Health

Students will

- understand the importance of assuming responsibility for personal health behaviors:
  - predict how decisions regarding health behaviors (e.g., hygiene, diet, exercise) have consequences for self and others
  - analyze personal decisions that impact an individual's emotional, sexual and reproductive health (e.g., abstinence)
  - explain how rights and responsibilities are interrelated
- explore and analyze how an individuals behaviors and choices of diet, exercise and rest affect the body
- analyze various communication methods and barriers for expressing health information and ideas

Grade 6 Skills and Concepts – Growth and Development

Students will

- apply strategies and skills needed to obtain personal health goals during adolescence and identify the physical, social and emotional changes (e.g., growth spurts, peer influence, self-confidence, mood swings) that occur during adolescence
- explain basic structures and function of the reproductive system

Big Idea: Personal Wellness (Health Education) – Continued

Grade 6 Skills and Concepts – Social, Mental and Emotional Health
Students will

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using and describe the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying and being open to different perspectives and points of view, empathy, friendship)
  - recommending effective strategies for responding to stress, conflict, peer pressure and bullying
  - interpreting how individuals impact the effective functioning of groups
- demonstrate the ability to apply a decision-making process to health issues and problems individually and collaboratively
- identify common social and emotional problems (aggression, anxiety, depression, grief) and describe self-management and coping strategies (goal setting, refusal skills, decision making and time management) for addressing these problems

Grade 6 Skills and Concepts – Family and Community Health
Students will

- analyze how personal health choices, individual well-being and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs
  - physical, social and emotional environments
  - information from peers

Grade 6 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention
Students will

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
- investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - explaining how health is influenced by the interaction of body systems (e.g., reproductive, digestive, circulatory, skeletal, respiratory)
  - describing ways pathogens from the environment (e.g., air, food, people) enter the body and explaining how body defenses fight pathogens
  - explaining how personal hygiene practices affect physical, mental/emotional and social health; explaining how personal health habits (e.g., hand washing, care of teeth and eyes, sun protection) affect self and others in the prevention and spread of disease
  - identifying health care providers and describing reasons for preventive care

Big Idea: Personal Wellness (Health Education) – Continued

Grade 6 Skills and Concepts – Alcohol, Tobacco and Other Drugs
Students will

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants) and describing how their usage affects the body systems
  - describing the immediate and long-term effects of alcohol and drug usage and the impact on physical, mental, emotional and social health (e.g., effects on family life)
  - identifying resources available to individuals seeking treatment or counseling for negative behaviors or addictions

Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
3.5 Students will demonstrate self-control and self-discipline.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use decision-making process to make informed decisions among options.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- proper nutrition is essential to growth and development.
- nutrients have a role in the development of an individual's health.
- resources are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

Grade 6 Skills and Concepts

Students will

- identify the role of nutrients and food sources which are important in the growth and development of healthy bodies
- explain the role of nutrition on the body systems impacting growth and development
- interpret, explain and apply the recommendations of national resources (e.g., Food Guide Pyramid (FGP), Dietary Guidelines for Americans, National Dairy Council) in making healthful food choices for a balanced diet
- analyze factors (e.g., geography, convenience, cost, advertising) that influence healthy food choices
- explain the role of nutrition on the body systems impacting the growth and development of healthy bodies
- use the nutritional information provided on food labels to explain how it can impacts dietary choices

Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
4.3 Students individually demonstrate consistent, responsive and caring behavior.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among-options.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community and state resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

Grade 6 Skills and Concepts

Students will

- explain reasons for safety practices (e.g., walking in opposite direction of violence, staying calm in dangerous situations) for dealing with a variety of health hazards (e.g., firearms, motorized vehicles or potentially unsafe or threatening situations) encountered by adolescents
- describe potential hazards in and around the home and school explain how to prevent injuries
- Identify and practice safety procedures needed for emergencies (e.g., tornado, fire, earthquake) at home and school
- recognize life threatening emergencies and identify basic first-aid procedures for responding to a variety of life-threatening emergencies (e.g., choking, broken bones, shock, poisons, burns, allergic reactions, bleeding)
- describe how to avoid dangerous situations involving strangers, fires and internet safety
- identify local and state health/safety agencies (e.g., health department, fire department, state police, hospital transport services) and the services they provide
- access and use reliable resources on safety guidelines for avoiding injuries and dangerous situations
- identify and practice communications skills needed in emergency situations

Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
4.1 Students effectively use interpersonal skills.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills need to be refined, combined and varied in the development of specialized skills (e.g., serving, catching with a glove, dribbling, punting).

Grade 6 Skills and Concepts

Students will

- identify and apply principles of motor skill refinement (e.g. accuracy, technique, movement) that are necessary for skill development
- demonstrate a variety of locomotor and combination skills in a movement pattern
- use non-locomotor, locomotor and combination skills to demonstrate movements in creative sequences and in simple patterned dances, games and other activities
- demonstrate a variety of non-locomotor, locomotor and combination skills while participating in different games and sports
- demonstrate refined manipulative skills of throwing, catching, kicking and striking while developing motor skills (e.g., sliding, running, jumping) for use in games and other activities that lead to more complex games and sports (e.g., long jump, hurdles, volleyball, soccer, softball)
- demonstrate how transitional motor skills (e.g., punting, serving, dribbling) are influenced by space, force and time

Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status, and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
3.1 Students demonstrate positive growth in self-concept through appropriate tasks or projects.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
3.7 Students demonstrate the ability to learn on one's own.
4.2 Students use productive team membership skills.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- intrinsic values and other benefits (physical, emotional/mental, social) are gained by regular participation in leisure/recreational or competitive activities.
- techniques, strategies and practice are important for improving performance of sport skills.
- rules impact effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

Grade 6 Skills and Concepts

Students will

- identify several moderate to vigorous physical activities that provide personal pleasure
- explain the physical, emotional/mental and social value in participating in physical activity
- describe the physical, emotional/mental and social benefits gained from regular participation in leisure/recreational or competitive physical activities
- recognize through participation in a variety of activities that personal skill development results from prior experiences, natural ability and practice
- describe the relationship between effort and improvement in skills gained from physical activities
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
  - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
  - demonstrate sportsmanship, cooperation, teamwork and conflict resolution
  - identify and use appropriate safety principles, rules, procedures and etiquette
  - identify offensive and defensive strategies used in games and sports
- identify and assess activities that enhance the health related fitness components (muscular strength, muscular endurance, flexibility, body composition, cardio respiratory endurance)
- explain the meaning of the F.I.T.T. Principle (Frequency, Intensity, Type, Time) and examine their impact on improving personal fitness
- identify and assess lifetime activities (e.g., biking, hiking, horseback riding, swimming) that enhance the health-related fitness components (muscular strength, muscular endurance, flexibility, body composition, cardio respiratory endurance)
- investigate how the systems of the body affect an individual's personal fitness level

Program of Studies – Practical Living – Seventh Grade

The purpose of health education is to help students acquire an understanding of health concepts and skills and to apply them in making healthy decisions to improve, sustain, and promote personal, family and community health.

Health education instruction for seventh grade emphasizes students generating and choosing positive alternatives to risky behaviors. They use skills to resist peer pressure and manage stress and anxiety. Students are able to relate health choices (e.g., nutrition, physical activity) to alertness, feelings and performance at school or during physical activity. Students exhibit a healthy lifestyle, interpret health information and promote good health.

Motor-skill acquisition and performance are enhanced by the application of movement concepts and principles in the 7th grade physical education program. Increased knowledge and practice promotes independent learning and more regular and effective participation in physical activity. Understanding not only how motor skills develop but the relationships between physical activity and its immediate and identifiable effects on the body contributes to and understanding of the benefits of a healthy lifestyle. In grade seven, students continue to develop competence in modified versions of game/sport, dance and recreational activities. They vary movement during dynamic and changing game situations. The ability to analyze skill performance through observing and understanding critical elements (isolated, small parts of the whole skill or movement) is increasingly apparent, as is the application of basic scientific principles of movement and personal fitness. Students relate the importance of physical activity to health, focusing particularly on obesity and stress. They create plans for improving personal fitness. Students continue to develop responsible personal and social behaviors by demonstrating decision-making skills, conflict-resolution skills, appropriate etiquette and respect for others. Students achieve and maintain personal fitness standards and set reasonable and appropriate goals for improvement or maintenance of health-related fitness.

The Health and Physical Education content standards at the 7th grade level are directly aligned with Kentucky's **Academic Expectations**. The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

Academic Expectations

2.29 Students demonstrate skills that promote individual well-being and healthy family relationships.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
4.1 Students effectively use interpersonal skills.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- individuals have a responsibility to advocate for personal, family and community health.
- interactions with others are an integral part of the human life experience and contribute to healthy relationships.
- physical, social, emotional and mental changes occur during adolescence and throughout life.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family and community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and the spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

Grade 7 Skills and Concepts – Personal and Physical Health

Students will

- identify ways to advocate for personal, family and community health
- understand the importance of assuming responsibility for personal health behaviors:
  - predict how decisions regarding health behaviors have consequences for self and others
  - analyze decisions that impact an individual's emotional, sexual, and reproductive health (e.g., describing benefits of abstaining from sexual activity: preventing pregnancy, preventing STDs, maintaining self-esteem)
  - explain how rights and responsibilities are interrelated
- evaluate how an individual's behaviors and choices of diet, exercise and rest affect the body

Grade 7 Skills and Concepts – Growth and Development

Students will

- apply strategies and skills needed to obtain personal health goals during adolescence
- describe the physical, social and emotional changes (e.g., growth spurts, peer influence, self-confidence, mood swings) that occur during adolescence
- explain basic structures and functions of the reproductive system as it relates to the human life cycle

Big Idea: Personal Wellness (Health Education) – Continued

Grade 7 Skills and Concepts – Social, Mental and Emotional Health
Students will

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using and explaining the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying and being open to different perspectives and points of view, empathy, friendship)
  - recommending and justify effective strategies (e.g., problem solving, decision making, refusal skills, anger management, conflict resolution) for responding to stress, conflict, peer pressure and bullying
  - interpreting how individuals impact the effective functioning of groups
- demonstrate the ability to apply a decision-making process to health issues and problems individually and collaboratively
- identify common social and emotional problems (aggression, anxiety, depression, grief) and describe self-management and coping strategies (goal setting, refusal skills, decision making and time management) for addressing these problems

Grade 7 Skills and Concepts – Family and Community Health
Students will

- analyze how personal health choices, individual well-being and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs

Grade 7 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention
Students will

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
- investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - explaining how health is influenced by the interaction of body systems
  - describing ways pathogens from the environment (e.g., air, food, people) enter the body and explaining how body defenses fight pathogens
  - explaining how personal hygiene practices affect physical, mental/emotional and social health; explaining how personal health habits (e.g., hand washing, care of teeth and eyes, sun protection) affect self and others in the prevention and spread of disease
  - identifying health care providers and describing reasons for preventive care

Big Idea: Personal Wellness (Health Education) – Continued

Grade 7 Skills and Concepts – Alcohol, Tobacco and Other Drugs
Students will

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants)and describing how their usage affects the body systems
  - describing the immediate/long-term effects of alcohol, tobacco and illegal drug usage and analyzing their impact on health
  - describing resources available to individuals seeking treatment or counseling for negative behaviors or addictions

Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
3.5 Students will demonstrate self-control and self-discipline.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use decision-making process to make informed decisions among options.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- proper nutrition is essential to growth and development.
- nutrients have a role in the development of an individual's health.
- resources are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

Grade 7 Skills and Concepts

Students will

- analyze factors (e.g., geography, cultural background, convenience, advertising) that influence healthy food choices
- identify organs and body systems and explain how they are affected by nutrients
- apply the decision-making process when analyzing resources needed in making dietary choices
- describe the role of nutrients and food sources which are important in the growth and development of healthy bodies
- use print and non-print resources (e.g., Food Guide Pyramid (FGP), *Dietary Guidelines for Americans*, United States Department of Agriculture (USDA), National Dairy council), to make healthful food choices in real-life situations

Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
4.3 Students individually demonstrate consistent, responsive and caring behavior.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among-options.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community, state and federal resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

Grade 7 Skills and Concepts

Students will

- explain how health hazards (e.g., firearms, motorized vehicles or potentially unsafe or threatening situations) and safety practices (e.g., walking in opposite direction of violence, staying calm in dangerous situations, wearing protective gear, notifying appropriate authority) can influence their personal health
- identify and describe potential hazards in and around the home and school explain how to prevent injuries
- explain and practice safety procedures needed for emergencies (e.g., weather, fire, tornado, lock down) at home or school
- identify life threatening emergencies and describe basic first-aid procedures for responding to a variety of life-threatening emergencies (e.g., choking, broken bones, shock, poisons, burns, allergic reactions, bleeding)
- identify and access the available local, state and federal health and safety agencies (e.g., health departments, Center for Disease Control and Prevention (CDC), National Guard) and explain the services they provide
- use reliable safety resources and guidelines to help in avoiding injuries and dangerous situations (e.g., internet use, vehicles, firearms, watercraft)
- identify and practice (e.g., role play, simulation) communications skills needed in emergency situations

Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
4.1 Students effectively use interpersonal skills.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills need to be refined, combined and varied in the development of specialized skills (e.g., serving, catching with a glove, dribbling, punting.

Grade 7 Skills and Concepts

Students will

- interpret the role that principles of motor skill refinements (e.g. accuracy, technique, movement) have in skill development
- demonstrate increased competence in motor skills for individual, dual and team activities
- use non-locomotor, locomotor and combination skills to demonstrate movements in creative sequences and in simple patterned dances, games and other activities
- improve techniques to achieve consistency in performance of fundamental manipulative skills (e.g., throwing, catching, kicking, dribbling, striking) for participation in games and activities
- demonstrate and explain how transitional motor skills (e.g., punting, serving, dribbling) are impacted by space, force and time

Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical Education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
3.1 Students demonstrate positive growth in self-concept through appropriate tasks or projects.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
3.7 Students demonstrate the ability to learn on one's own.
4.2 Students use productive team membership skills.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- intrinsic values and other benefits (physical, emotional/mental, social) are gained by regular participation in leisure/recreational or competitive activities.
- techniques, strategies and practice are important for improving performance of sport skills.
- rules impact effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

Grade 7 Skills and Concepts

Students will

- identify moderate to vigorous physical activities that will provide for personal enjoyment and health benefits
- examine and analyze the personal benefits derived from regular participation in leisure/recreational or competitive physical activities
- evaluate the relationship between effort and skill improvement
- demonstrate and apply the technique of practice progression to personal skill development
- access and describe techniques (e.g., practice, lessons, videos, drills, peer/teacher review, self-evaluation) for improving performance in games and sports
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
  - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
  - demonstrate sportsmanship, cooperation, teamwork and conflict resolution
  - recognize and use safety principles, rules, procedures and etiquette
  - describe how offensive and defensive strategies are used in games and sports; create, explore and devise strategies for games or physical activities
- explain the components of fitness (muscular strength, muscular endurance, flexibility, body composition, cardio-respiratory endurance) and how the FITT Principle (Frequency, Intensity, Type, Time) can be used to maintain and improve fitness
- identify and assess lifetime activities (e.g., bowling, tennis, swimming, walking) that enhance the health-related fitness
- investigate how the systems of the body affect an individual's personal fitness level
- explain the relationship of nutrition and exercise to physical fitness

Program of Studies – Practical Living – Eighth Grade

The purpose of health education is to help students acquire an understanding of health concepts and skills and to apply them in making healthy decisions to improve, sustain and promote personal, family and community health.

Students in 8th grade have an understanding of the origins and causes of diseases, including the relationship between family history and certain health risks. They begin to relate short- and long-term consequences of health choices and apply health skills to specific personal, family and community health concerns. Students discern relationships among all components of health and wellness and knowledgeably use consumer information.

The 8th grade physical education program assists in the continuing physical, mental, social and emotional development of students as they make the transition from puberty to adolescence. There is a focus on fitness activities, techniques, strategies and rule of games and sports. Participation in lifetime activities such as golf, tennis, bowling, archery, running, hiking, swimming and cycling are also emphasized. Students in 8th grade demonstrate competence in skillful movement in modified, dynamic game situations and in a variety of dance and recreational activities. They transition from modified versions of movement forms to more complex applications across all types of activities — game/sport, dance and recreational pursuits. Students demonstrate the ability to assume responsibility for guiding their own learning as they apply their knowledge and abilities to create a practice plan to improve performance in a selected game/sport, dance or recreational pursuit. They demonstrate mature responsibility as they show respect for others, make reasoned and appropriate choices, resist negative peer pressure and exhibit fair play. They have a repertoire of abilities across a variety of game/sport, dance and recreational pursuits and begin to develop competence in specialized versions of lifetime game/sport activities.

The Health and Physical Education content standards at the 8th grade level are directly aligned with Kentucky's **Academic Expectations.** The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being or total health. Personal wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making behavioral choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

Academic Expectations

2.29 Students demonstrate skills that promote individual well-being and healthy family relationships.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
4.1 Students effectively use interpersonal skills.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- individuals have a responsibility to advocate for personal, family and community health.
- physical, social, emotional and mental changes occur during adolescence and throughout life.
- interactions with others are an integral part of the human life experience and contribute to healthy relationships.
- the environment, lifestyle, family history, peers and other factors impact physical, social, mental and emotional health.
- culture, values (e.g., individual, family and community) media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal behavioral choices.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and spreading of diseases to self and others.
- self-management and coping strategies can enhance mental and emotional health.
- a variety of resources are available to inform, treat and counsel individuals with physical, mental, social and emotional health needs.

Grade 8 Skills and Concepts – Personal and Physical Health

Students will

- evaluate communication methods used in advocating for personal, family and community health
- understand the importance of assuming responsibility for personal health behaviors:
  - predict how decisions regarding health behaviors have consequences for self and others
  - explain the benefits (preventing pregnancy, preventing HIV/STDs, maintaining self-esteem) and strategies (e.g., using refusal skills, talking with parents, doctors, counselors) of abstaining from sexual activity
- evaluate how an individual's behaviors and choices of diet, exercise and rest affect the body

Big Idea: Personal Wellness (Health Education) – Continued

Grade 8 Skills and Concepts – Growth and Development
Students will

- apply strategies and skills needed to obtain personal health goals during adolescence and describe the physical, social and emotional changes (e.g., growth spurts, peer influence, self-confidence, mood swings) that occur during adolescence
- explain basic structures and functions of the reproductive system as it relates to the human life cycle

Grade 8 Skills and Concepts – Social, Mental and Emotional Health
Students will

- demonstrate social interaction skills by:
  - using appropriate means to express needs, wants and feelings
  - using and explaining the importance of effective social interaction skills (e.g., respect, self-advocacy, cooperation, communication, identifying and being open to different perspectives and points of view, empathy, friendship)
  - recommending and justifying effective strategies (e.g., problem solving, decision making, refusal skills, anger management, conflict resolution) for responding to stress, conflict, peer pressure and bullying
  - interpreting how individuals impact the effective functioning of groups
- demonstrate the ability to apply a decision-making process to health issues and problems individually and collaboratively
- identify common social and emotional problems (aggression, anxiety, depression, grief) and describe self-management and coping strategies (goal setting, refusal skills, decision making and time management) for addressing these problems

Grade 8 Skills and Concepts – Family and Community Health
Students will

- analyze how personal health, health behaviors and use of health services can be influenced by:
  - family traditions/values
  - technology and media messages
  - cultural beliefs
  - physical, social and emotional environments
  - information from peers

Big Idea: Personal Wellness (Health Education) – Continued

Grade 8 Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention
Students will

- demonstrate an understanding of diseases by:
  - describing symptoms, causes, patterns of transmission, prevention and treatments of communicable diseases (colds, flu, mononucleosis, hepatitis, HIV/STD, tuberculosis)
  - describing symptoms, causes, patterns of transmission, prevention and treatments of non-communicable diseases (cancer, cardiovascular disease, diabetes, obesity, asthma, emphysema)
  - investigate family history, environment, lifestyle and other risk factors related to the cause or prevention of disease and other health problems
- demonstrate an understanding of how to maintain a healthy body by:
  - analyzing how health is influenced by the interaction of body systems
  - describing ways pathogens from the environment (e.g., air, food, people) enter the body and explaining how body defenses fight pathogens
  - explaining how personal hygiene practices affect physical, mental/emotional and social health; explaining how personal health habits (e.g., hand washing, care of teeth and eyes, sun protection) affect self and others in the prevention and spread of disease
  - identifying health care providers and describing reasons for preventive care

Grade 8 Skills and Concepts – Alcohol, Tobacco and Other Drugs
Students will

- demonstrate an understanding of the use and misuse of alcohol, tobacco and other drugs by:
  - distinguishing between legal (e.g., over the counter, prescription drugs) and illegal drugs (e.g., inhalants, marijuana, stimulants, depressants) and describing how their usage affects the body systems
  - describing the immediate/long-term effects of alcohol, tobacco and illegal drug usage and analyzing their impact on health
  - describing resources available to individuals seeking treatment or counseling for negative behaviors or addictions

Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
3.5 Students will demonstrate self-control and self-discipline.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use decision-making process to make informed decisions among options.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- proper nutrition is essential to growth and development.
- nutrients have a role in the development of an individual's health.
- resources are available to assist in making nutritional choices.
- individuals, families and community values influence nutritional choices.

Grade 8 Skills and Concepts

Students will

- evaluate the role of nutrients and food sources in the growth and development of healthy bodies
- identify problems that occur from extreme eating behaviors (overeating, obesity, anorexia, bulimia)
- analyze factors (e.g., geography, family, cultural background, convenience, cost, advertising, friends, personal taste) that influence healthy food choices
- apply the decision-making process when analyzing resources needed in making dietary choices
- use print and non-print resources (e.g., Food Guide Pyramid (FGP), *Dietary Guidelines for Americans*, United States Department of Agriculture (USDA), National Dairy council), to make healthful food choices in real-life situations

Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicle, falls, drowning, fires, firearms and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
4.3 Students individually demonstrate consistent, responsive and caring behavior.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among-options.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- safety practices and procedures help to prevent injuries and provide a safe environment.
- community, state and federal resources are available to assist in hazardous situations.
- proper procedures must be used in emergency situations.

Grade 8 Skills and Concepts

Students will

- explain how health hazards (e.g., firearms, motorized vehicles, all terrain vehicles, personal water craft, potentially unsafe or threatening situations) and safety practices (e.g., walking in opposite direction of violence, staying calm in dangerous situations, wearing protective gear, notifying appropriate authority) may influence their personal health
- identify and describe potential hazards in and around the home and school explain how to prevent injuries
- demonstrate safety procedures needed for emergencies (e.g., weather, fire, tornado, lock down) at home or school
- recognize life threatening emergencies and explain how basic first-aid procedures for responding to a variety of life-threatening emergencies (e.g., falls, drowning, choking, bleeding, shock, poisons, burns, temperature-related emergencies, allergic reactions, broken bones) can help reduce the severity of injuries and save lives
- identify and access the available local, state and federal health and safety agencies (e.g., health departments, Center for Disease Control and Prevention (CDC), National Guard) and explain the services they provide
- use reliable safety resources and guidelines to help in avoiding injuries and dangerous situations (e.g., internet use, vehicles, firearms, watercraft)
- demonstrate communications skills needed in emergency situations
- explain safety practices needed when assuming responsibilities (babysitting, house-sitting, elderly care, pet care) in caring for animals, property and other individuals

Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
4.1 Students effectively use interpersonal skills.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- movement concepts, principles, strategies and tactics apply to the learning and performance of physical activities.
- motor skills need to be refined, combined and varied in the development of specialized skills (e.g., serving, catching with a glove, dribbling, punting).

Grade 8 Skills and Concepts

Students will

- critique transitional motor skills and patterns to make recommendations for improvement
- selects appropriate practice procedures to learn and master skills and movement patterns
- analyze the principles of motor skill refinements (e.g. accuracy, technique, movement) have in skill development
- demonstrate increased competence in motor skills for individual, dual and team activities
- explore the use of non-locomotor, locomotor and combination skills in movement sequences, patterned dances, games and other activities
- refine techniques to achieve consistency in performance of fundamental manipulative skills (e.g., throwing, catching, kicking, dribbling, striking) for participation in games and activities
- demonstrate and explain how transitional motor skills are needed for participation in games, activities and rhythmic movements (e.g., baseball, soccer, dance, golf, basketball)

Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional and social health is strengthened by regular involvement in physical activities.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
3.1 Students demonstrate positive growth in self-concept through appropriate tasks or projects.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
3.7 Students demonstrate the ability to learn on one's own.
4.2 Students use productive team membership skills.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- leisure/recreational or competitive physical activities provide opportunities for self-expression, social interactions and can be enjoyable and challenging.
- intrinsic values can be gained by regular participation in leisure/recreational or competitive activities.
- techniques, strategies and practice are important for improving performance of sport skills.
- adhering to rules and procedures, etiquette, cooperation and team work, ethical behavior and positive social interaction impacts the effective participation in sports and physical activities.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.
- fitness principles and techniques are used to improve/maintain physical health.

Big Idea: Lifetime Physical Wellness (Physical Education) – Continued

Grade 8 Skills and Concepts
Students will

- design and implement a personal lifetime leisure/recreational plan that includes challenging and enjoyable physical activities
- examine and analyze the personal benefits derived from regular participation in leisure/recreational or competitive physical activities
- develop and implement an appropriate practice plan for skill proficiency in games and sports
- examine the relationship between and among effort, persistence, practice and improvement as they relate to skill development
- access and describe techniques (e.g., practice, lessons, videos, drills, peer/teacher review, self-evaluation) for improving performance in games and sports
- participate regularly in physical activity
- when participating in a variety of physical activities, sports and games:
  - identify and apply rules of behavior and fair play (e.g., accepting authoritative decisions, assessing one's own performance level, accepting skills and abilities of others through verbal and nonverbal actions for spectators and/or participants)
  - demonstrate sportsmanship, cooperation, teamwork and conflict resolution
  - identify and use safety principles, rules, procedures and etiquette
  - describe how offensive and defensive strategies are used in games and sports
- conduct a self-assessment which includes the elements and of the FITT Principle (Frequency, Intensity, Type, Time) and design a fitness plan based on assessment results
- compare and contrast lifetime activities (e.g., biking, dance, tennis, horseback riding, walking, golf) that improve or maintain the components of fitness (muscular strength, muscular endurance, flexibility, body composition, cardio-respiratory endurance)
- explain how the systems of the body (e.g., muscular, skeletal, nervous, respiratory, circulatory) affect an individual's personal fitness level
- explain the relationship of nutrition and exercise to physical fitness

MIDDLE LEVEL SCIENCE

Program of Studies – Science – Sixth Grade

The science program in grade six incorporates opportunities for students to work and think like scientists as they apply abilities needed for scientific inquiry. These abilities include: (1) identifying questions that can be answered through scientific investigations, (2) designing and conducting scientific investigations, (3) using appropriate tools and techniques to gather, analyze and interpret data, (4) developing descriptions, explanations, predictions and models using evidence, (5) thinking critically and logically to uncover the relationships between evidence and explanations, (6) recognizing and analyzing alternative explanations and predictions, (7) communicating scientific procedures and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the sixth grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

Experiment/Test- conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

Research- consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

Model- represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. During the middle years, physical and chemical changes in matter are observed, and students begin to relate these changes to the smaller constituents of matter—namely, atoms and molecules. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- all matter is composed of parts that are too small to be seen without magnification.
- no matter how substances within a closed system interact with one another, or how they combine or break apart, the total weight of the system remains the same.
- chemical changes result in the formation of a substance that has different properties than the original substance.
- not all substances that are mixed together will chemically combine. Because of this, physical properties can be used to separate mixtures.
- new ideas in science sometimes spring from unexpected findings, and they usually lead to new investigations.

Grade 6 Skills and Concepts

Students will

- use hand lenses and microscopes to investigate substances composed of particles too small to be seen without magnification
- use observations and evidence to describe and verify chemical changes in matter
- classify changes in substances as physical or chemical changes
- distinguish between mixtures and compounds
- explain how or why mixtures can be separated using physical properties, and investigate strategies for separating mixtures
- explore the feasibility of various procedures for separating mixtures, taking into account constraints such as availability and properties of materials, safety, economic and ethical issues
- investigate how important scientific advances have resulted from unexpected observations or experimental results
- plan, present and support information from investigations using a variety of modes

Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- friction is a force that turns the energy of motion into heat, causing moving objects to eventually slow or stop unless additional force (energy) is added.
- when any force acts on an object, the change in speed or direction depends on the size and direction of the force.
- mechanical systems must be designed to take forces such as friction into account. Friction and/or the heat produced by it can have significant effects on the system.

Grade 6 Skills and Concepts

Students will

- use observations and appropriate tools (e.g., timer, meter stick, balance, spring scale) to document the position and motion of objects
- use graphical and observational data to make inferences, predictions and draw conclusions about the motion of an object as related to the mass or force involved
- observe real-life phenomena to discover the effects of friction on moving objects and mechanical systems
- represent the motion of objects and their response to unbalanced forces in a variety of ways

Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the middle level, students investigate how these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. In middle school, students begin to look beyond what can be directly observed as they explore the Earth-sun-moon system, as well as the rest of our solar system, employing the concept of scale within their models. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- regular and predictable movements of the sun, moon and Earth are responsible for many observed phenomena on Earth, (e.g. day/night, year, moon phases, eclipses). The regular patterns of these phenomena can be predicted using data or models.
- the total amount of material that makes the solid Earth is relatively constant (excluding impacts), even though rocks and minerals often change properties through a variety of processes that transform them (rock cycle).
- the Earth's surface is not uniform due to a number of constructive and destructive forces that constantly reshape it. The past effects of these processes can be inferred, and the data these inferences are based upon can also be used to predict future changes.
- complex systems like the Earth or solar system are difficult to comprehend or explain without depending on averages and ranges of data. Technology is essential for helping to collect and analyze this data.

Grade 6 Skills and Concepts

Students will

- use observations, models and evidence to explain the cause and effect relationships in the rock cycle and to make predictions about constantly changing Earth materials
- investigate, create and identify the limitations of models which can be used to substantiate and predict the actual results (e.g. moon phases, seasons, eclipses) of the interactions of the sun, moon and Earth
- investigate constructive and destructive forces at work on the Earth's surface and the landforms that result from them
- research how scientists organize data from complex systems and also how technology enables/enhances scientific research and data analysis

Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. In middle school, students begin to compare, contrast, and classify the microscopic features of organisms—the cells, as well as investigate reproduction as the essential process to the continuation of all species. Expected patterns of genetic traits are predicted. Distinctions are made between learned behaviors and inherited traits. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- cells are the fundamental units that perform the basic functions needed to sustain life. Some organisms contain only a single cell, while others may have many millions of specialized cells grouped together in cooperative systems with specific functions (tissues and/or organs).
- every cell within an organism contains all of the information needed to completely replicate that organism, regardless of the function that cell performs.
- although plants and animals exhibit a great variety in body structures that contribute to their survival and reproduction, the basic way that individual cells function is similar in all living organisms.
- the behavior of an organism can be influenced by both heredity and experiences. The relative influence of these factors can be inferred by careful observation/data collection over a period of time.
- the great diversity of life is a result of many factors, both internal and external to organisms.
- even the most different of organisms are fundamentally more alike than different. Their seemingly great differences conceal the great similarities apparent at the cellular level.
- classification systems do not exist in nature, but are created by scientists to describe the vast diversity of organisms, frame research questions and suggest relationships among living things.

Grade 6 Skills and Concepts

Students will

- obtain information from observations, models and other sources to explain the functions of cells necessary to sustain life
- use scientific tools (e.g., microscope) to observe and describe unicellular and multi-cellular organisms and the specialized cells they contain
- describe and represent (e.g. construct a chart, diagram, or graphic organizer) relationships between and among levels of organization for structure and function, including cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists, fungi, plants, animals) and ecosystems
- design and conduct scientific investigations to make inferences about factors influencing the behavior of organisms, and compare the results with those of investigations done by others
- investigate the relative influence of heredity and experience on the behavior of organisms
- identify and describe the cellular structures that allow for replication/reproduction
- classify organisms into simple categories and discuss the limitations of classification systems

Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the middle school level, students study relationships among populations and ecosystems that contribute to the success or demise of a specific population or species. Students construct basic explanations that can account for the great diversity among organisms.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

2.6 Students understand how living and nonliving things change over time and the factors that influence the changes.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- small differences between parents and offspring result in future generations that are very different from their ancestors.
- sensing and controlling internal processes in response to the external environment are essential for an organism's survival, regardless of how simple or complex it is.
- scientists vary widely in what they study and how they do their work. While there is no fixed set of steps they follow, the basic process of science involves collecting relevant evidence, logical reasoning and the use of imaginative thinking in constructing explanations for what they observe.

Grade 6 Skills and Concepts

Students will

- investigate how small differences between parents and offspring can accumulate over time, eventually resulting in a wide variety of types of organisms with different characteristics from their different ancestors
- explain how various organisms sense (e.g. hunger, fatigue, temperature awareness) and control their internal environments (e.g. fat metabolism, adrenaline release, perspiration) and how this contributes to their survival
- identify current research topics in biological sciences and identify the means/processes scientists are using to generate data about them
- explain how the basic ideas of scientific investigation remain the same regardless of the field of study
- generate questions about the diversity of species, then collect information from a variety of sources to formulate explanations supported by scientific evidence

Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- oceans have a major effect on climate, because water in the oceans holds a large amount of heat.
- several Earth systems and processes occur primarily because of the constant influx of solar energy.
- seasons are a result of the interaction of the tilt of the Earth's axis relative to its orbital path.
- energy, in the form of sunlight, is transformed by a chemical reaction in plant cells (photosynthesis) to form essential nutrients for the plant to live and grow.
- inside a closed system, the temperature increases or decreases as heat energy is added or removed.
- the Earth is a complex system of energy transformations, materials and processes. Understanding the whole requires first understanding individual subsystems and their interactions.

Grade 6 Skills and Concepts

Students will

- model and explain why some locations on Earth have seasons
- identify Earth processes influenced by energy from the sun (e.g. water cycle, nitrogen cycle, photosynthesis) and describe the sun's role in those processes
- explain the cause and effect relationships between oceans and climate and describe the predictable patterns that result
- describe the role of photosynthesis in energy storage within plants
- experimentally investigate the relationship between temperature and heat transfer in closed systems

Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. In middle school, students should be guided from specific examples of the interdependency of organisms to a more systematic view of the interactions that take place among organisms and their surroundings. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity, and the effect of human intervention.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- ecosystems are more than just the organisms they contain: geography, weather, climate and geologic factors also influence the interactions within an ecosystem.
- communities do not exist in isolation, but are globally interconnected by a number of Earth systems (e.g. ocean, atmosphere, lithosphere).
- science can sometimes be used to inform ethical decisions by identifying the likely consequences of an action, but cannot be used to establish if taking that action would be right or wrong.

Grade 6 Skills and Concepts

Students will

- describe and explore the biotic and abiotic factors that affect change in ecosystems
- document and describe consequences of change in one or more abiotic factors on a population within an ecosystem
- investigate how communities are interconnected, how they interact with different Earth systems, and represent these global connections/interactions in a variety of ways (e.g. writing, models, multi-media, claymation)
- differentiate the usefulness of scientific research to predict the possible consequences of decisions about environmental issues from its limitations in making ethical/moral decisions about those issues

Program of Studies – Science – Seventh Grade

The science program in grade seven incorporates opportunities for students to work and think like scientists as they apply abilities needed for scientific inquiry. These abilities include: (1) identifying questions that can be answered through scientific investigations, (2) designing and conducting scientific investigations, (3) using appropriate tools and techniques to gather, analyze and interpret data, (4) developing descriptions, explanations, predictions and models using evidence, (5) thinking critically and logically to uncover the relationships between evidence and explanations, (6) recognizing and analyzing alternative explanations and predictions, (7) communicating scientific procedures and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the seventh grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

Experiment/Test- conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

Research- consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

Model- represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. During the middle years, physical and chemical changes in matter are observed, and students begin to relate these changes to the smaller constituents of matter—namely, atoms and molecules. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- equal volumes of different substances usually have different weights.
- there are only 92 naturally occurring elements and all matter is made of some combination of them (compounds).
- elements, as well as compounds, can be classified according to their similar properties, including how they react with each other and how they may be used. The patterns, which allow classification, can be used to infer or understand real life applications for those substances.
- many factors influence reaction rates, such as temperature, acidity and concentration.
- investigations are conducted for different reasons, including to explore new phenomena, to check on previous results, to test how well a theory predicts, and to compare different theories.

Grade 7 Skills and Concepts

Students will

- compare the physical and chemical properties of a variety of substances, including examples of solids, liquids and gases
- distinguish between elements and compounds and classify them according to their properties
- generate investigable questions and conduct experiments or non-experimental research to address them
- observe reactions between substances that produce new substances very different from the reactants
- test factors that influence reaction rates
- explore real-life applications of a variety of elements and compounds and communicate findings in an authentic form (transactive writing, public speaking, multimedia presentations)

Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- an object remains at rest or maintains a constant speed and direction of motion unless an unbalanced force acts on it (inertia).
- forces acting against each other can be balanced, canceling each other out and having no net effect.
- gravity is an attractive force created by mass. All objects are attracted to each other by gravity, but this attraction is easy to see only when at least one of the objects has a large mass.
- technology used to gather data enhances accuracy and allows scientists to analyze and quantify results of investigations.

Grade 7 Skills and Concepts

Students will

- use appropriate tools and technology (e.g., timer, meter stick, balance, spring scale) to investigate the position, speed and motion of objects
- test the cause and effect relationship between straight-line motion and unbalanced forces
- investigate balanced and unbalanced forces and their effect on objects and their motion
- make inferences and draw conclusions about the motion of objects, and predict changes in position and motion as related to the mass or force
- calculate work as the product of force and distance moved in the direction of the force
- identify gravity as a force that acts over a distance, and distinguish it from other forces that do the same (e.g. magnetism)
- investigate the properties of gravity and observe its effects on objects
- distinguish between weight (as a function of gravity) and mass (matter content) of an object
- explore the impact of technology on measurement by making measurements with tools of varying precision, comparing the results and predicting possible impacts that variation in measurements might have in real-life investigations

Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding *what* Earth materials are and that change occurs. At the middle level, students investigate *how* these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. In middle school, students begin to look beyond what can be directly observed as they explore the Earth-sun-moon system, as well as the rest of our solar system, employing the concept of scale within their models. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- regular and predictable movement is not limited to our solar system. New technologies, coupled with an understanding of the laws of motion, allow for the discovery of celestial bodies that cannot be directly observed.
- our solar system is part of a larger collection of millions of stars (Milky Way Galaxy), any of which may be the center of its own system of orbiting planets.
- gravitational interactions within the Earth, sun and moon system impact phenomena and organisms on the surface of the Earth.
- models of the interior of the Earth have been constructed primarily from inferences based on limited data obtained during earthquakes and volcanic eruptions. These models are useful, but are open to revision or rejection as new information is obtained.
- the Earth's layers vary widely in their properties, and interactions between them can manifest themselves in ways that impact both the Earth and its organisms.
- while some changes to the Earth occur without warning, many changes to the surface or atmosphere can be predicted from available data/evidence.

Grade 7 Skills and Concepts

Students will

- research how the laws of motion have been (and are still) used to make predictions about the movement of planets and satellites
- describe the effects of gravity on the movements and interactions of the Earth, sun and moon
- investigate the structure of the galaxy and the Earth's place within it
- analyze the evidence used to infer the composition of the Earth's interior and evaluate the models based upon that evidence
- model the layers of the Earth, explain interactions between them and describe potential results of those interactions
- investigate the forces and processes that change Earth's surface or atmosphere and analyze data to generate predictions of their effects

Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. In middle school, students begin to compare, contrast, and classify the microscopic features of organisms—the cells, as well as investigate reproduction as the essential process to the continuation of all species. Expected patterns of genetic traits are predicted. Distinctions are made between learned behaviors and inherited traits. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- specialized structures called genes are located in the chromosomes of each living cell. These structures have the task of passing on characteristics that make offspring resemble their parents (heredity).
- inherited traits of an offspring come directly from the genes of the parent, while learned traits are acquired after birth through interactions with the offspring's surroundings.
- asexual reproduction involves only the passing on of one parent's genes, resulting in offspring with genes identical to those of the parent. Sexual reproduction requires the combination of genes from male and female sex cells, creating offspring with a blend of traits.
- sexual reproduction creates variations among offspring, gradually contributing to a wide variety of life.
- the observable differences among humans are minor compared to their internal similarity, as evidenced by the ability of people from all over the world to physically mix through reproduction, blood transfusions and organ transplants.
- research involving living things requires ethical considerations not required when investigating non-living things. Human subjects must be fully informed about potential risks and freely consent to any involvement. Because animals cannot make their own choices, special care must be taken in using them in scientific research.

Grade 7 Skills and Concepts

Students will

- describe and compare sexual and asexual reproduction, including advantages and disadvantages of each
- research and describe the role of genes/chromosomes in the passing of information from one generation to another (heredity)
- describe the differences between learned and inherited behaviors and characteristics, and classify examples of each using tables, graphs or diagrams
- research variations within species that result from sexual reproduction
- compare the physiological similarities among people from geographically and culturally diverse origins
- support and/or defend a position related to the ethical considerations of scientific research involving humans and other organisms, both orally and in writing

Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the middle school level, students study relationships among populations and ecosystems that contribute to the success or demise of a specific population or species. Students construct basic explanations that can account for the great diversity among organisms.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

2.6 Students understand how living and nonliving things change over time and the factors that influence the changes.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- over time, some species have become so adapted to each other that neither could survive without the other.
- most of the species that have lived on Earth no longer exist. A species will become extinct when changes in environmental conditions (either gradual or rapid) are greater than its ability to adapt.
- fossils provide evidence of how biological change over time accounts for the diversity of species developed through gradual processes over many generations.
- results of scientific investigations are seldom exactly the same, but if the differences are large it is important to try to figure out why. Keeping careful records is important to help investigate what might have caused the differences.

Grade 7 Skills and Concepts

Students will

- investigate parasitic and symbiotic relationships among organisms
- explore the environmental factors that have resulted in the extinction of species
- use information from the fossil record to investigate changes in organisms and their environments to make inferences about past life forms and environmental conditions
- compare the results from a variety of investigations (based on similar hypotheses) to identify differences between their outcomes/conclusions and propose reasonable explanations for those discrepancies

Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- most of the energy that powers the Earth's systems comes from the sun. Energy from inside the Earth, however, is responsible for some important phenomena (volcanism, plate tectonics).
- the amount of energy in a closed system remains the same, so that the energy lost by a hot object equals the energy gained by a cold one.
- all energy must have a source and may change forms or be transferred in a wide variety of ways, including via waves.
- thermal energy and motion are inseparable when viewed at the molecular level.
- the role various organisms play within an ecosystem can be determined by observing the flow of energy between them.
- systems tend to change until they become stable and remain that way unless conditions change.

Grade 7 Skills and Concepts

Students will

- investigate a variety of Earth systems that are powered by solar (e.g. water cycle, climate, carbon cycle) and/or geothermal (e.g. plate tectonics, volcanism) energy
- model, explain and analyze the flow of energy in ecosystems and draw conclusions about the role of organisms in an ecosystem
- explain where energy comes from (and goes next) in a variety of real-world examples (e.g. burning, respiration, residential lighting, dry cell batteries) involving different forms of energy (e.g. heat, light, kinetic, chemical)
- identify forms of energy that are transferred via waves
- equate work done on an object with change in energy of the object
- describe the kinetic molecular theory of matter
- experiment with heat flow inside closed and open systems to explore the concept of thermal equilibrium

Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. In middle school, students should be guided from specific examples of the interdependency of organisms to a more systematic view of the interactions that take place among organisms and their surroundings. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity, and the effect of human intervention.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- species may become extinct even if environmental conditions remain constant. Competition between species for limited resources can result in extinction.
- changes within an ecosystem may be caused by the interactions of many factors, both biotic and abiotic. Seemingly small changes can have significant consequences as their effects ripple through a community.
- not all actions/decisions have the possibility of a desirable outcome. Sometimes a compromise requires accepting one unwanted outcome to avoid a different unwanted outcome.

Grade 7 Skills and Concepts

Students will

- research and investigate environmental situations where small changes may have large impacts in both living and non-living components of systems (e.g., introduction of zebra mussels into the Kentucky river, planting kudzu to stabilize hillsides)
- investigate potential factors contributing to endangerment or extinction, including the effects of competition for resources
- identify a species which has become extinct and analyze data/evidence to infer the contributing factors which led to extinction
- research and discuss environmental impacts of actions (human or non-human) which necessitate choosing between undesirable alternatives (e.g., losing crops to insects vs. applying toxic pesticides)
- design and conduct investigations of changes to abiotic and biotic factors in ecosystems, document and communicate observations, procedures, results and conclusions

Program of Studies – Science – Eighth Grade

The science program in the eighth grade should provide opportunities for students to think and work like scientists. Applying factual knowledge in real-world scientific contexts allows students to refine the abilities that are the basis of scientific inquiry. These abilities include: (1) identifying questions and concepts that guide scientific investigations, (2) designing and conducting scientific investigations, (3) using technology and mathematics to improve investigations and communications, (4) formulating and revising scientific explanations and models using logic and evidence, (5) recognizing and analyzing alternative explanations and models and (6) communicating and defending a scientific argument.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the eighth grade level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These big ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

In order to effectively implement the Program of Studies, teachers must have a common understanding of some of the terms referenced throughout this document;

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.

Experiment/Test- conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

Research- consult of a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

Model- represent a phenomenon or concept. Models are often conceptual in nature, and the term ‘model’ does not always imply a physical product.

Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. During the middle years, physical and chemical changes in matter are observed, and students begin to relate these changes to the smaller constituents of matter—namely, atoms and molecules. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- all matter is made of tiny moving particles called atoms, which are far too small to see directly through a microscope. The atoms of any element are alike but are different from atoms of other elements.
- because atomic structure is not directly observable, models (physical and conceptual) are used to facilitate understanding. What kind of model to use and how complex it should be depends on its purpose.
- elements do not break down during chemical reactions (e.g., heating, exposure to electric currents, reaction with acids).
- the idea of atoms explains the conservation of matter: If the number of atoms stays the same no matter how they are rearranged, then their total mass stays the same. The atoms that are present today are the same atoms that have always existed.
- there are groups of elements that have similar properties, including highly reactive metals, less-reactive metals, highly reactive nonmetals (such as chlorine, fluorine and oxygen) and some almost completely non-reactive gases (such as helium and neon). Some elements don't fit into any of the categories; among them are carbon and hydrogen, essential elements of living matter.
- over a long time, matter is transferred from one organism to another repeatedly and between organisms and their physical environment. As in all material systems, the total amount of matter remains constant, even though its form and location change.

Grade 8 Skills and Concepts

Students will

- classify substances by how they react in given situations
- analyze models/representations of elements and basic atomic structure
- describe and illustrate the movement of elements between organisms and their physical environment and within the Earth system
- analyze factors that may influence the movement of elements among the solid Earth, oceans, atmosphere and organisms
- investigate the relationship between the seemingly indestructible nature of the atom and the concept of conservation of matter

Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. At the middle level, qualitative descriptions of the relationship between forces and motion will provide the foundation for quantitative applications of Newton's Laws.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- Isaac Newton developed a set of rules that can be used to describe and predict virtually all observed motion on Earth and in the universe. These Laws of Motion demonstrate that the rules governing the Earth are the same as those controlling the rest of the observed universe.
- preconceived expectations can influence what people actually observe, preventing them from detecting other results. In order to maintain objectivity, different investigators should investigate the same question independently. For example, Newton's Laws are widely accepted because they have been verified by so many different observers.

Grade 8 Skills and Concepts

Students will

- differentiate speed and acceleration and classify real-life examples of each
- explain and experimentally verify how Newton's Laws show that forces between objects affect their motion, allowing future positions to be predicted from their present speeds and positions
- investigate motion of objects to generate and experimentally test predictions/conclusions. Compare and critique the results of others for accuracy, identifying strengths and weaknesses in the experiment, insisting on the use of evidence to support decisions

Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on Earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the middle level, students investigate how these changes occur. An understanding of systems and their interacting components will enable students to evaluate supporting theories of Earth changes. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels. In middle school, students begin to look beyond what can be directly observed as they explore the Earth-sun-moon system, as well as the rest of our solar system, employing the concept of scale within their models. Patterns play an important role as students seek to develop a conceptual understanding of gravity in their world and in the universe.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the Earth is almost unimaginably old when viewed on a human time scale, and some processes that shape it are happening so slowly they cannot be easily detected in a lifetime. The accepted age of our Earth and solar system (4.6 billion years) is based on a wide variety of data collected by a number of different methods.
- heat flow and movement of molten rock within the interior of the Earth results in crustal changes such as earthquakes, volcanoes and continental drift.
- a model cannot represent a full-scale phenomenon with complete accuracy, even if it only addresses very few attributes of the original.

Grade 8 Skills and Concepts

Students will

- research and evaluate the geological dating techniques that were used to determine the accepted age of the Earth
- identify a variety of landforms on the Earth's surface that have undergone changes (both fast and slow) and investigate the forces responsible for those changes
- observe convection currents in liquids and model the movement of molten rock within the Earth in order to explain how internal heat is transferred
- discuss and identify the strengths and limitations of a variety of physical and conceptual scientific models

Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. In middle school, students begin to compare, contrast, and classify the microscopic features of organisms—the cells, as well as investigate reproduction as the essential process to the continuation of all species. Expected patterns of genetic traits are predicted. Distinctions are made between learned behaviors and inherited traits. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- all cells contain specialized parts that are structured to efficiently perform the cell's essential functions.
- complex organisms can exist because their genes contain the information needed to create and reproduce cells with specialized functions.
- organisms have nervous systems that allow them to react to changes in their surroundings and within themselves. Some of their reactions (e.g. pain response) are determined genetically while others (e.g. pushing a button to obtain food) are learned.
- patterns (e.g. reproductive method, number of body segments, type of skeleton) are helpful in classifying organisms based on how they are related. Science considers details of internal and external structures to be more important than behavior or general appearance.
- technological advances have made it possible for humans to alter the natural world. Ethical considerations and the probability of unintended consequences make it essential that the potential risks and rewards of any scientific endeavor be carefully considered before proceeding.

Grade 8 Skills and Concepts

Students will

- investigate, model and explain the functions of the specialized parts within the cell
- identify patterns of behavior within populations and classify them as either innate or learned
- investigate how the nervous systems of various organisms allow them to react (e.g. vomiting, avoidance) to internal (e.g., food toxins) and external (e.g., predator encounter) stimuli
- describe the role of genes/chromosomes in the passing of information from one generation to another (heredity)
- identify patterns among organisms that may be used for classification and compare those patterns to the currently accepted taxonomy
- collect and analyze information to answer questions about factors influencing heredity and learned behaviors and explain how scientific knowledge has been modified as new information is revealed
- research and discuss the impact of technological advances, and explore the ethical questions they often create

Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. At the middle school level, students study relationships among populations and ecosystems that contribute to the success or demise of a specific population or species. Students construct basic explanations that can account for the great diversity among organisms.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

2.6 Students understand how living and nonliving things change over time and the factors that influence the changes.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- thousands of layers of sedimentary rock provide evidence for the long history of the Earth and the long history of changing life forms whose remains are found in the rocks. More recently deposited rock layers contain fossils that more closely resemble existing species.
- observations of the fossil record provide evidence that helps to explain why externally diverse organisms are so similar at the molecular level.
- scientists cannot always control experimental conditions to obtain evidence. When that is not possible, they try to observe as wide a range of natural occurrences as possible to be able to identify patterns.

Grade 8 Skills and Concepts

Students will

- explore the law of superposition and the processes of fossilization in sedimentary rock
- synthesize evidence from the fossil record with information about currently-existing species to make inferences about why the similarities of diverse species extend beyond superficial comparisons
- research the most common fossils used to support theories of biological change
- apply research to answer student-generated questions through deductive reasoning about factors that may impact diversity of species

Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple Earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- energy can be transferred in many ways, but it can neither be created nor destroyed.
- a steady supply of energy is essential for our society, but every source of energy has potential problems as well as benefits. Not all forms of energy are practical to use given our current state of technology.
- solar energy influences global climate in a number of direct and indirect ways. Patterns of global climate can be determined through analysis of climatic data.
- although many forms of energy exist, they can all be classified as either kinetic energy, potential energy, or energy contained within a field.
- the interaction of waves with matter provides the vehicle for a number of important types of energy transfer.
- changes that occur to any one component of an ecosystem may influence the entire system, since all of the components are interrelated. The relationships that exist can be determined by observing the flow of energy.
- many systems contain feedback mechanisms that serve to keep changes within specified limits.

Grade 8 Skills and Concepts

Students will

- explain the law of conservation of energy and infer where energy goes in a number of real-life energy transformations
- identify the energy transformations that occur in the ‘production’, transmission and use of energy by people in everyday life (e.g., electric power, automotive fuels, food)
- illustrate examples of potential and kinetic energy in everyday life, such as objects at rest, geologic fault movement and falling water
- compare a variety of energy sources (e.g., biomass, fission, fusion, ethanol) and evaluate their potential for large-scale use, as well as their benefits, risks and limitations
- classify methods of heat transfer (convection, conduction, radiation) and forms of energy (kinetic, potential, energy contained within a field)
- model energy transfer via waves and identify real-life examples
- analyze multiple sources of data to identify global climate patterns
- graphically represent energy flow within an ecosystem to identify the existing relationships
- analyze ecosystems to identify the factors that determine carrying capacities

Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. In middle school, students should be guided from specific examples of the interdependency of organisms to a more systematic view of the interactions that take place among organisms and their surroundings. Students growing understanding of systems in general will reinforce the concept of ecosystems. Stability and change in ecosystems can be considered in terms of variables such as population size, number and kinds of species, productivity, and the effect of human intervention.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- organisms both cooperate and compete in ecosystems. Balanced patterns of cooperation and competition may generate ecosystems that are relatively stable for hundreds or thousands of years.
- the matter in an ecosystem is constantly transferred between and among organisms and the physical environment. While the form and location is continuously changing, the total amount of matter in the system remains constant.
- it is important to consider what population will benefit and what population (not necessarily the same one) will bear the cost when deciding among alternative courses of action.
- sometimes decisions have unintended consequences no matter how thoughtfully they were made, and may actually create new problems and needs.

Grade 8 Skills and Concepts

Students will

- predict the effects of change on one or more components within an ecosystem by analyzing a variety of data
- analyze ecosystems to identify patterns of cooperation that enhance stability
- model the flow of energy and transfer of matter within ecosystems, communities and niches
- evaluate the risks and benefits of human actions affecting the environment and identify which populations will be harmed or helped. Use a variety of data/ sources to support or defend a position related to a proposed action, both orally and in writing. Analyze the validity of other arguments
- identify examples of human actions that have had unintended environmental consequences (e.g., DDT weakening egg shells, lead-based paint, asbestos insulation)

MIDDLE LEVEL SOCIAL STUDIES

Program of Studies – Social Studies – Sixth Grade

Social studies at the middle level has a different level/grade context each year. For example, grade six includes world geography through an integrated social studies perspective. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500 A.D. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the middle level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five "Big Ideas" that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American representative democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

Academic Expectations

2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

2.15 Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the purposes and sources of power in present day governments vary, each reflecting and impacting the culture(s) of the people governed.
- individual rights of people vary under different forms of government.
- democratic governments of the present day function to protect the rights, liberty and property of their citizens while promoting the common good.
- the United States does not exist in isolation; its democratic form of government has played and continues to play a role in our interconnected society.

Grade 6 Skills and Concepts

Students will

- demonstrate an understanding (e.g., speak, draw, write, projects, present) of the nature of government:
  - describe different forms of government in the present day
  - compare purposes and sources of power in the most common forms of government (e.g., monarchy, democracy, republic, dictatorship) in the present day
  - explain how democratic governments of the present day function to preserve and protect the rights (e.g., voting), liberty, and property of their citizens by making, enacting and enforcing appropriate rules and laws
  - analyze information found in current events/news (e.g., TV, radio, Internet, articles) about different present day governments and how they may reflect/impact culture
- describe/give examples of similarities and differences between rights and responsibilities of individuals living in countries with different forms of government
- analyze information from a variety of print and non-print sources (e.g., books, documents, articles, observations, interviews) to investigate, explain and answer questions about different forms of government in the present day

Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

Academic Expectations

2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

2.17 Students interact effectively and work cooperatively with the many diverse ethnic and cultural groups of our nation and world.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- culture affects how people in a society behave in relation to groups and their environment.
- an appreciation of the diverse complexity of cultures is essential in our global society.

Grade 6 Skills and Concepts

Students will

- demonstrate an understanding (e.g., speak, draw, write, sing, create) of the complexity of culture by exploring cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups and explaining how culture serves to define present day groups and may result in unique perspectives
- investigate social institutions (e.g., family, religion, education, government, economy) in relation to how they respond to human needs, structure society and influence behavior in the present day
- explain how communications between groups can be influenced by cultural differences; explain how interactions (e.g., political, economic, religious, ethnic) can lead to conflict and competition among individuals and groups in the present day
- describe conflicts between individuals or groups and explain how compromise and cooperation are possible choices to resolve conflict among individuals and groups in the United States and across regions of the world in the present day
- compare examples of cultural elements (e.g., language, the arts, customs/traditions, beliefs, skills and literature) of diverse groups in the present day, including non-western cultures within the United States, in current events/news using information from a variety of print and non-print sources (e.g., media, literature, interviews, observations, documentaries, artifacts)

Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

Academic Expectations

2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the basic economic problem confronting individuals, societies and governments across present day geographic regions is scarcity: as a result of scarcity, economic choices and decisions must be made.
- economic systems (e.g., traditional, command, market, mixed) and a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) affect individuals, societies and governments of the present day.
- individuals, businesses and governments must make economic decisions about the use of resources in the production, distribution and consumption of goods and services.
- markets are institutional arrangements that enable buyers and sellers to exchange goods and services.
- our global economy provides for a level of interdependence among individuals, regions and nations of the present day.

Grade 6 Skills and Concepts

Students will

- demonstrate an understanding of the nature of limited resources and scarcity, using a variety of print and non-print sources (e.g., news media, news magazines, textbook, Internet) to investigate present day economic problems within the U.S. and in world regions:
  - explain how scarcity requires individuals, groups and governments to make decisions about the use of productive resources (e.g., natural resources, human resources and capital goods)
  - compare economic systems (e.g., traditional, command, market, mixed)
  - explain how the prices of goods and services are determined by supply and demand in market economies
- demonstrate an understanding of markets by providing scenarios to illustrate how goods and services are exchanged; explain how money can be used to express the market value of goods and services; describe the relationship between money and ease of trading, borrowing, investing and saving; analyze the connections between economic conditions and current events of the present day
- investigate the production and distribution of goods and services in present day societies:
  - describe how competition among buyers and sellers impacts the price of goods and services
  - explain ways in which societies (within the U.S. and in world regions) address basic economic questions (e.g., how resources are used to produce goods and services, how regions increase productivity) about the production, distribution and consumption of goods and services
  - analyze examples that demonstrate interdependence of international economic activities

Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

Academic Expectations

2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- the use of geographic tools (e.g., maps, globes, photographs, models, charts, graphs, databases, and satellite images) and mental maps helps interpret information, analyze patterns and spatial data, and solve geographic issues in the present day.
- patterns emerge as humans move, settle, and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depend on, adapt to, or modify the environment to meet basic needs. Human actions modify the physical environment and in turn, the physical environment limits or promotes human activities in the present day.
- citizens in an interdependent global community change their environment through the use of land and other resources. Many of the important issues facing societies and nations involve the consequences of interactions between human and physical systems.

Big Idea: Geography – Continued

Grade 6 Skills and Concepts
Students will

- demonstrate an understanding of patterns on the Earth's surface, using a variety of geographic tools (e.g., maps, globes, charts, graphs, satellite images):
  - locate, in absolute and relative terms, landforms and bodies of water
  - locate and interpret patterns on Earth's surface (e.g., how different factors, such as rivers, mountains and plains affect where human activities are located)
- investigate regions of the Earth's surface using information from print and non-print sources (e.g., books, films, magazines, Internet, geographic tools):
  - explain relationships between and among physical characteristics (e.g., mountains, bodies of water, valleys) of present day regions and how they are made distinctive by human characteristics (e.g., dams, roads, urban centers); describe advantages and disadvantages for human activities (e.g., exploration, migration, trade, settlement) that resulted
  - describe patterns of human settlement in the present day; explain relationships between these patterns and human needs; analyze how factors (e.g., war, famine, disease, economic opportunity, technology) impact human migration today
  - evaluate how availability of technology, resources and knowledge causes places and regions in the present day to change
  - interpret current events in the world from a geographic perspective
- investigate interactions among human activities and the physical environment in the present day:
  - explain how people modify the physical environment (e.g., dams, roads, bridges) to meet their needs in different regions
  - describe how the physical environment can promote or restrict human activities (e.g., exploration, migration, trade, settlement, development) in the present day
  - explain cause and effect relationships between the natural resources of a place or region and its political, social and economic development
  - describe how individual and group perspectives impact the use (e.g., urban development, recycling) of natural resources using current events

Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

Academic Expectations

2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- interactions among countries and people are complex because of cultural, political, economic, geographic and historical differences.
- people and groups react and adapt to change over time in a variety of ways based on their needs, goals and experiences.

Grade 6 Skills and Concepts

Students will

- demonstrate an understanding of the interpretative nature of history using a variety of tools and resources (e.g., primary and secondary sources, Internet, timelines, maps):
  - investigate and chronologically describe (e.g., using timelines, charts, fictional and report writing, role playing) major events in present day regions of the world and draw inferences about their importance
  - examine potential causes of recent historical events and show connections among causes and effects; use cause-effect relationships to identify patterns of historical change influenced by government, culture, economics and/or geography
  - analyze historical events, conditions and perspectives of different individuals and groups (e.g., by gender, race, region, ethnic group, age, economic status, religion, political group) in present day regions of the world
- analyze major historical events and people in present day regions of the world using information from print and non-print sources (e.g., biographies, autobiographies, films, magazines, Internet)

Program of Studies – Social Studies – Seventh Grade

Social studies at the middle level has a different level/grade context each year. For example, grade six includes world geography through an integrated social studies perspective. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500 A.D. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

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Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American representative democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

Academic Expectations

2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

2.15 Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- forms of government in world civilizations prior to 1500 A.D. had similarities and differences in their purposes and sources of power.
- the key ideals (e.g., citizenship, justice, equality, and rule of law) of a democratic form of government were practiced in some world civilizations prior to 1500 A.D.
- individual rights in world civilizations prior to 1500 A.D. varied under different forms of government.

Grade 7 Skills and Concepts

Students will

- demonstrate an understanding (e.g., speak, draw, write, projects, present) of the nature of government:
  - explain the role of government (e.g., establishing order, providing security, achieving common goals) in world civilizations prior to 1500 A.D. and make connections to how government influences culture, society and the economy
  - compare different forms of government, and the purposes and sources of power in the most common forms of government (e.g., monarchy, democracy, republic, dictatorship) in world civilizations prior to 1500 A.D.
  - analyze how some world civilizations prior to 1500 A.D. (e.g. Greece, Rome) demonstrated the use of democratic principles (e.g., justice, equality, responsibility, freedom)
- compare rights and responsibilities of individuals in world civilizations prior to 1500 A.D. to the rights and responsibilities of U.S. citizens today
- analyze information from a variety of print and non-print sources (e.g., books, documents, articles, observations, interviews, Internet sources) to research, explain and answer questions about governments and people of world civilizations prior to 1500 A.D.

Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

Academic Expectations

2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- culture affects how people in a society behave in relation to groups and their environment.

Grade 7 Skills and Concepts

Students will

- demonstrate an understanding (e.g., speak, draw, write, sing, create) of the complexity of culture by exploring cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups and explaining how culture served to define groups in world civilizations prior to 1500 A.D. and resulted in unique perspectives
- investigate social institutions (e.g., family, religion, education, government, economy) in relation to how they responded to human needs, structured society and influenced behavior in world civilizations prior to 1500 A.D.
- explain how communications between groups can be influenced by cultural differences; explain how interactions lead to conflict and competition (e.g., political, economic, religious, ethnic) among individuals and groups in world civilizations prior to 1500 A.D.
- describe conflicts between individuals or groups and explain how compromise and cooperation were possible choices to resolve conflict among individuals and groups in world civilizations prior to 1500 A.D.
- compare examples of cultural elements (e.g., beliefs, customs/traditions, language, skills, the arts, literature) using information from a variety of print and non-print sources (e.g., media, literature, interviews, observations, documentaries, artifacts) to analyze how cultures in world civilizations prior to 1500 A.D. have influenced cultures of today

Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

Academic Expectations

2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.

Grade 7 Enduring Knowledge – Understandings

Students understand that

- the basic economic problem confronting individuals, societies and governments in world civilizations prior to 1500 A.D. was scarcity: as a result of scarcity, economic choices and decisions had to be made.
- the study of economics includes a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) that apply to individuals, societies and governments in world civilizations prior to 1500 A.D.
- individuals, groups and governments in world civilizations prior to 1500 A.D. made economic decisions about the use of resources in the production, distribution and consumption of goods and services.

Grade 7 Skills and Concepts

Students will

- demonstrate an understanding of the nature of limited resources and scarcity, using information from a variety of print and non-print sources (e.g., textbook, Internet, resource materials) to investigate world civilizations prior to 1500 A.D.:
  - explain how scarcity requires individuals, groups and governments to make decisions about use of productive resources (e.g., natural resources, human resources and capital goods)
  - compare economic systems and explain the concept of supply and demand in world civilizations prior to 1500 A.D.
  - describe how goods and services were exchanged in world civilizations prior to 1500 A.D.
- investigate the production and distribution of goods and services in world civilizations prior to 1500 A.D. explaining ways in which societies addressed basic economic questions (e.g., how resources were used to produce goods and services; how new knowledge, technology/tools, and specialization increased productivity) about the production, distribution and consumption of goods and services

Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

Academic Expectations

2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- the use of geographic tools (e.g., maps, globes, photographs, models, charts, graphs) and mental maps helps interpret information, analyze patterns and spatial data, and better understand geographic issues in world civilizations prior to 1500 A.D.
- patterns emerge as humans move, settle, and interact on Earth's surface, and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interacted to shape patterns of human populations, interdependence, cooperation and conflict in world civilizations prior to 1500 A.D.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depended on, adapted to, or modified the environment to meet basic needs. Human actions modified the physical environment and in turn, the physical environment limited or promoted human activities in world civilizations prior to 1500 A.D.

Big Idea: Geography – Continued

Grade 7 Skills and Concepts
Students will

- demonstrate an understanding of patterns on the Earth's surface, using a variety of geographic tools (e.g., maps, globes, charts, graphs):
  - locate, in absolute or relative terms, landforms and bodies of water
  - locate and interpret patterns on Earth's surface, explaining how different factors (e.g., rivers, mountains, seacoasts, deserts) impacted where human activities were located in world civilizations prior to 1500 A.D.
- investigate regions of the Earth's surface in world civilizations prior to 1500 A.D. using information from print and non-print sources (e.g., books, films, magazines, Internet, geographic tools):
  - explain relationships between and among physical characteristics of regions during the time of world civilizations prior to 1500 A.D., and explain how regions were made distinctive (e.g., dams, irrigation, roads) by human characteristics; describe advantages and disadvantages for human activities (e.g., exploration, migration, trade, settlement) that resulted
  - describe patterns of human settlement in world civilizations prior to 1500 A.D.; explain relationships between these patterns and human needs; analyze how factors (e.g., war, famine, disease, economic opportunity and technology) impacted human migration
  - evaluate how availability of technology, resources and knowledge caused places and regions to evolve and change
  - analyze current events to compare geographic perspectives of today with those of world civilizations prior to 1500 A.D.
- investigate interactions among human activities and the physical environment:
  - explain how people of world civilizations prior to 1500 A.D. used technology (e.g., dams, roads, bridges) to modify the physical environment to meet their needs
  - describe how the physical environment promoted or restricted human activities (e.g., exploration, migration, trade, settlement, development) of world civilizations prior to 1500 A.D.
  - analyze cause and effect relationships between the natural resources of world civilizations prior to 1500 A.D. and their political, social and economic development

Big Idea: Historical Perspective

History is an account of events, people, ideas and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

Academic Expectations

2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- history is an account of human activities that is interpretive in nature, and a variety of tools (e.g., primary and secondary sources, timelines, Internet, maps) are needed to analyze historical events in world civilizations prior to 1500 A.D.
- world civilizations prior to 1500 A.D. can be examined in order to develop chronological understanding, recognize cause-effect relationships, and interpret historical events.
- geography and natural resources had a significant impact on world historical perspectives and events prior to 1500 A.D.
- advances in science and technology had a significant impact on historical events in world civilizations prior to 1500 A.D.
- each era (e.g., Beginnings to Human Society, Early Civilizations, Classical Civilizations, Major Civilizations, States and Empires, Medieval Europe and the Rise of Western Civilizations, and Exploration as it relates to world civilizations prior to 1500 A.D.) in the history of world civilizations had social, political, economic and/or cultural characteristics.

Big Idea: Historical Perspective – Continued

Grade 7 Skills and Concepts
Students will

- demonstrate an understanding of the interpretative nature of history using a variety of tools and resources (e.g., primary and secondary sources, Internet, timelines, maps):
  - investigate and chronologically describe (e.g., using timelines, charts, fictional and report writing, role playing) significant events in world civilizations prior to 1500 A.D. and draw inferences about their importance
  - examine multiple cause and effect relationships that have shaped history throughout world civilizations prior to 1500 A.D.
  - analyze historical events, conditions and perspectives of different individuals and groups (e.g., by gender, race, region, ethnic group, age, economic status, religion, political group) in world civilizations prior to 1500 A.D.
- investigate, using primary and secondary sources (e.g., biographies, films, magazines, Internet resources, textbooks, artifacts), to answer questions about, locate examples of, or interpret factual and fictional accounts of major historical events and people:
  - explain how early hunters and gatherers (Paleolithic and Neolithic) developed new technologies
  - describe the contributions made by world civilizations prior to 1500 A.D. (e.g., Egypt, Mesopotamia, the Indus River Valley, the Middle East, India, China) to society and analyze the impact these contributions made to future generations
  - examine the rise of classical civilizations and empires (e.g., Greece and Rome) and analyze their lasting impacts on the world in the areas of government, philosophy, architecture, art, drama and literature
  - describe the rise of western civilizations (e.g., Mayan, Incan, Aztec) and non-western civilizations (e.g., Egyptian, Chinese, Indian, Persian) and analyze ways in which these cultures influenced government, philosophy, art, drama and literature in the present day
  - explain how the movement of goods affected settlement patterns in and relations between early civilizations, empires, nations and states (e.g., Asia, Africa, and the Americas)
  - examine developments during the Middle Ages (e.g., feudalism, nation states, monarchies, religious institutions, limited government, trade) and describe resulting influences on modern societies
  - describe how the Age of Exploration (world civilizations prior to 1500 A.D.) caused diverse cultures to interact in various forms (e.g., compromise, cooperation, conflict, competition); explain how governments expanded their territories and developed new technologies

Program of Studies – Social Studies – Eighth Grade

Social studies at the middle level has a different level/grade context each year. For example, grade six includes world geography through an integrated social studies perspective. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500 A.D. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the level/grade context, students incorporate each of the five areas of social studies in an integrated fashion to explore the content.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the middle level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five "Big Ideas" that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American representative democracy, including its fundamental principles, structure, and the role of citizens. Understanding the historical development of structures of power, authority, and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

Academic Expectations

2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

2.15 Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the American political system developed from a colonial base of representative democracy by the actions of people who envisioned an independent country and new purposes for the government.
- the United States government was formed to establish order, provide security and accomplish common goals.
- the fundamental values and principles (e.g., liberty, justice, individual human dignity, the rule of law) of American representative democracy as expressed in historical documents (e.g., the Declaration of Independence, the Constitution of the United States) are enduring and remain significant today.
- the Constitution of the United States establishes a government of limited powers that are shared among different levels and branches. The Constitution is a document that can be changed from time to time through both formal and informal processes (e.g., amendments, court cases, executive actions) to meet the needs of its citizens.
- as members of a democratic society, all citizens of the United States have certain rights and responsibilities, including civic participation.

Big Idea: Government and Civics – Continued

Grade 8 Skills and Concepts
Students will

- demonstrate an understanding (e.g., illustrate, write, model, projects, present) of the nature of government:
  - explain the role of government (e.g., establishing order, providing security, achieving common goals) in the United States prior to Reconstruction and make connections to how government influences culture, society and the economy
  - describe how democratic governments in the United States prior to Reconstruction functioned to preserve and protect the rights (e.g., voting), liberty and property of their citizens by making, enacting and enforcing rules and laws (e.g., constitutions, laws, statutes)
  - compare purposes and sources of power in the most common forms of government (e.g., monarchy, democracy, republic)
- investigate the Constitution of the United States:
  - examine ways the Constitution is a document that can be changed from time to time through both formal and informal processes (e.g., amendments, court cases, executive actions) to meet the needs of its citizens
  - explain the political process established by the U.S. Constitution and ways the Constitution separates power among the legislative, executive and judicial branches to prevent the concentration of political power and to establish a system of checks and balances
  - analyze why the powers of the state and federal governments are sometimes shared and sometimes separated (federalism)
- make inferences about and among significant historical events and historical documents (e.g., the Declaration of Independence, the Constitution of the United States) to illustrate connections to democratic principles and guaranteed rights for all citizens
- explain pros and cons of how citizen responsibilities (e.g., participate in community activities, vote in elections) and duties (e.g., obey the law, pay taxes, serve on a jury, register for the military) impact the U.S. government's ability to function as a democracy
- analyze information from a variety of print and non-print sources (e.g., books, documents, articles, interviews, Internet) to research answers to questions and explore issues

Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals (e.g., food, clothing, shelter, communication) connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

Academic Expectations

2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

2.17 Students interact effectively and work cooperatively with the many diverse ethnic and cultural groups of our nation and world.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people. Through a society's culture, individuals learn the relationships, structures, patterns and processes to be members of the society.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior, and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition) and are influenced by culture.
- multiple factors contributed to the cultural diversity of the United States prior to Reconstruction; an understanding and appreciation of the diverse complexity of cultures is essential in our society.

Grade 8 Skills and Concepts

Students will

- demonstrate an understanding (e.g., speak, draw, write, sing, create) of the nature of culture by exploring cultural elements (e.g., beliefs, customs/traditions, languages, skills, literature, the arts) of diverse groups in the United States prior to Reconstruction and explain how culture served to define specific groups and resulted in unique perspectives
- investigate social institutions (e.g., family, religion, education, government, economy) in relation to how they responded to human needs, structured society and influenced behavior in the United States prior to Reconstruction
- explain how communications between groups were influenced by cultural differences; explain how interactions influenced conflict and competition (e.g., political, economic, religious, ethnic) among individuals and groups in the United States prior to Reconstruction
- describe conflicts between individuals or groups and explain how compromise and cooperation were possible choices to resolve conflict among individuals and groups in the United States prior to Reconstruction
- compare examples of cultural elements of today to those in the United States prior to Reconstruction, using information from a variety of print and non-print sources (e.g., media, literature, interviews, observations, documentaries, artifacts)

Big Idea: Economics

Economics includes the study of production, distribution and consumption of goods and services. Students need to understand how their economic decisions affect them, others, the nation and the world. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies, and governments.

Academic Expectations

2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- the basic economic problem confronting individuals, societies and government in the development of the United States prior to Reconstruction was scarcity; as a result of scarcity, economic choices and decisions were made.
- the development of the American economic system, institutions and markets prior to Reconstruction helped individuals, groups and governments achieve their goals and impacted life in the United States.
- the United States government and its policies played a major role in determining how the U.S. economy functioned prior to Reconstruction.
- individuals, businesses and the government of the U.S. prior to Reconstruction made economic decisions about the use of resources in the production, distribution and consumption of goods and services.

Grade 8 Skills and Concepts

Students will

- demonstrate an understanding of the nature of limited resources and scarcity in the United States prior to Reconstruction, using information from a variety of print and non-print sources (e.g., news media, news magazines, textbook, Internet):
  - explain how scarcity required individuals, groups and governments to make decisions about use of productive resources (e.g., natural resources, human resources and capital goods)
  - describe how goods and services were exchanged and how supply and demand and competition determined prices
  - analyze cause-effect relationships among financial decisions by individuals and groups and historical events
- investigate the production and distribution of goods and services in the United States prior to Reconstruction:
  - examine ways in which basic economic questions about the production, distribution and consumption of goods and services were addressed
  - explain how resources were used to produce goods and services and how profit motivated individuals and groups to take risks in producing goods and services
  - analyze how new knowledge, technology/tools and specialization influenced productivity of goods and services
- analyze interdependence of economic activities among individuals and groups in the United States prior to Reconstruction

Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

Academic Expectations

2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- use of geographic tools (e.g., maps, globes, photographs, models, charts, graphs, databases) and mental maps helps to interpret information, analyze patterns and spatial data, and understand geographic issues encountered in the United States prior to Reconstruction.
- patterns emerge as humans move, settle, and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged, and why they are in particular locations. Economic, political, cultural and social processes interact to shape patterns of human populations, interdependence, cooperation and conflict in the United States prior to Reconstruction.
- regions help us to see Earth as an integrated system of places and features organized by such principles as landform types, political units, economic patterns and cultural groups.
- people depended on, adapted to, or modified the environment to meet basic needs. Human actions modified the physical environment and in turn, the physical environment limited or promoted human activities in the United States prior to Reconstruction.

Big Idea: Geography – Continued

Grade 8 Skills and Concepts
Students will

- demonstrate an understanding of patterns on Earth's surface using a variety of geographic tools (e.g., maps, globes, charts, graphs, photographs, models):
  - locate, in absolute or relative terms, landforms and bodies of water
  - locate, interpret patterns on Earth's surface, and explain how different physical factors (e.g., rivers, mountains, seacoasts) impacted where human activities were located in the United States prior to Reconstruction
- investigate regions of the Earth's surface in the United States prior to Reconstruction using information from print and non-print sources (e.g., books, films, magazines, Internet, geographic tools):
  - explain relationships between and among physical characteristics of regions and how they were made distinctive by human characteristics (e.g., dams, roads, urban centers); describe
  - advantages and disadvantages for human activities (e.g., exploration, migration, trade, settlement) that resulted
  - describe patterns of human settlement; explain relationships between these patterns and human needs; analyze how factors (e.g., war, famine, disease, economic opportunity, and technology) affected human migration
  - evaluate how availability of technology, resources and knowledge caused places and regions to evolve and change
  - analyze current events to compare geographic perspectives of today with those prior to Reconstruction
- investigate interactions among human activities and the physical environment in the United States prior to Reconstruction:
  - explain how people used technology to modify the physical environment to meet their needs
  - describe how the physical environment and different viewpoints promoted or restricted human activities (e.g., exploration, migration, trade, settlement, development) and land use
  - analyze cause-effect relationships between and among natural resources and political, social and economic development

Big Idea: Historical Perspective

History is an account of events, people, ideas, and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

Academic Expectations

2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- history is an account of human activities that is interpretive in nature, and a variety of tools (e.g., primary and secondary sources, data, artifacts) are needed to analyze and understand historical events.
- U.S. History can be analyzed by examining significant eras (Exploration as it relates to the settlement of America, The Great Convergence, Colonization and Settlement, Revolution and the New Nation, Expansion and Reform, Civil War) to develop chronological understanding and recognize cause-and-effect relationships and multiple causation.
- U.S. History (prior to Reconstruction) has been impacted by significant individuals and groups.
- geography, culture and economics have a significant impact on historical perspectives and events.
- advances in science and technology have a significant impact on historical events.

Big Idea: Historical Perspective – Continued

Grade 8 Skills and Concepts

Students will

- demonstrate an understanding of the interpretative nature of history using a variety of tools and resources (e.g., primary and secondary sources, Internet, timelines, maps):
  - investigate, describe and analyze significant historical events and conditions in the U.S prior to Reconstruction, drawing inferences about perspectives of different individuals and groups (e.g., gender, race, region, ethnic group, age, economic status, religion, political group)
  - examine multiple cause-effect relationships that have shaped history (e.g., showing how a series of events are connected)
- investigate, using primary and secondary sources (e.g., biographies, films, magazines, Internet resources, textbooks, artifacts) to answer questions about, locate examples of, or interpret factual and fictional accounts of major historical events and people:
  - analyze how exploration and the settlement of America caused diverse cultures to interact in various forms (e.g., compromise, cooperation, conflict, competition); explain how governments expanded their territories and the impact this had on the United States prior to Reconstruction
  - describe events and conditions that led to the "Great Convergence" of European, African and Native American people beginning in the late 15th century; analyze how America's diverse society developed as a result of these events
  - explain how the ideals of equality and personal liberty (e.g., rise of individual rights, economic freedom, religious diversity) that developed during the colonial period were motivations for the American Revolution and proved instrumental in forging a new nation
  - describe how the growth of democracy and geographic expansion occurred and were significant to the development of the United States prior to Reconstruction
  - compare the political, social, economic and cultural differences (e.g., slavery, tariffs, industrialism vs. agrarianism, federal vs. states' rights) between and among regions of the U.S. and explain how these differences contributed to the American Civil War
  - evaluate how advances in science and technology contributed to the changing American society in the United States prior to Reconstruction

MIDDLE LEVEL TECHNOLOGY

Program of Studies – Technology – Middle School

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. The technology program of studies at the middle level builds upon primary and intermediate experiences and includes students demonstrating competencies in technology literacy. Students use word processing, database, spreadsheet, browser, presentation and other tools. Students know the purpose and function of technology to enable them to select the appropriate tools to create original innovative work. By the end of middle school, students apply and demonstrate technology competencies across all curriculum areas. This experience will prepare them in meeting the minimum technology requirements needed for high school graduation.

The technology content standards at the middle grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues;** and **3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry. The skills and concepts build on prior learning.

Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
3.3 Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
6.1 Students connect knowledge and experiences from different subject areas.
6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

Middle Enduring Knowledge – Understandings

Students will understand that

- appropriate terminology, proper keyboarding, computer operations and applications assist to gain confidence in the use of technology.
- technology (e.g. keyboarding, word processing, spreadsheets, databases, hardware, scanners, digital and video cameras) is used effectively and efficiently to accomplish a task.
- technology is used to communicate in a variety of ways.
- productivity tools are used effectively and efficiently to accomplish a task.

Middle Skills and Concepts – Information

Students will

- use a variety of technology (e.g., probeware, handhelds, digital and video cameras, scanners) to collect, analyze and present in all content areas
- recognize, discuss and use terms/concepts related to the protection of computers, networks and information (e.g., virus protection, network security, passwords, firewalls, privacy laws)
- use proper keyboarding techniques, optimal posture and correct hand placement (e.g., continue appropriate finger reaches and building speed)

Middle Skills and Concepts – Communication

Students will

- use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)
- select and use appropriate technology to collect, analyze and share information
- use online collaboration and interactive projects (e.g., email, videoconferencing) to communicate with others (e.g., experts, mentors)
- use a variety of electronic formats (e.g., web publishing, oral presentations, journals and multimedia presentations) to summarize and communicate results

Middle Skills and Concepts – Productivity

Students will

- use productivity tools to complete content assignments and projects
- construct and publish information in printed and digital formats (e.g., printed reports, resumes, brochures, charts, multimedia presentations, videos and websites) for authentic audiences
- use technology to develop innovative and creative products

Big Idea: Safety and Ethical/Social Issues

Students understand safety and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Academic Expectations

2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
3.6 Students demonstrate the ability to make decisions based on ethical values.
4.3 Students individually demonstrate consistent, responsive and caring behavior.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
4.5 Students demonstrate an understanding of, appreciation for and sensitivity to a multi-cultural and world view.

Middle Enduring Knowledge – Understandings

Students will understand that

- collaborative and interactive projects use technology to enhance learning.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- ethical use of technology is necessary to ensure safety, privacy and legal issues.
- technology is used in occupations as a basic skill to be successful and productive in a global society.
- assistive technology supports learning to ensure equitable access to a productive life.

Middle Skills and Concepts – Safety

Students will

- explain the importance of safe Internet use (e.g., iSafe skills)
- apply safe behavior when using technology

Middle Skills and Concepts – Ethical Issues

Students will

- describe intellectual property issues related to technology
- practice responsible (e.g., virus protection, passwords) use of technology adhering to the Acceptable Use Policy (AUP) as well as other state and federal laws
- model ethical behavior relating to security, privacy, passwords and personal information and recognize possible consequences of misuse
- use legal and ethical practices when completing digital projects/school work and credit all participants for their contribution to the work
- investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use
- investigate software piracy, its impact on the technology industry and possible repercussions to individuals and/or the school district

Middle Skills and Concepts – Human Issues

Students will

- use appropriate behavior related to computers, networks, digital information (e.g., security, privacy, passwords, personal information)
- use proper social etiquette with any technology (e.g., email, blogs, IM, telephone, help desk) while collaborating with peers, experts and others
- use technology to engage in interactive projects in the classroom
- describe how societal expectations drive the acceptance and use of new products and systems
- investigate how the use of technology affects humans in various ways (e.g., safety, comfort, choices and attitudes)
- explore how technology is used in different occupations
- engage technology to support learning (e.g., online courses, online assessments)
- conclude that assistive technology supports learning to ensure equitable access to a productive life

Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
2.3 Students identify and analyze systems and the ways their components work together or affect each other.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.
5.4 Students use a decision-making process to make informed decisions among options.
5.5 Students use problem-solving processes to develop solutions to relatively complex problems.
6.1 Students connect knowledge and experiences from different subject areas.

Middle Enduring Knowledge – Understandings

Students will understand that

- technology supports creative thinking and implementation of new ideas to reach goals.
- technology supports critical thinking skills used in inquiry/problem solving to make informed decisions.
- technology assists in researching, analyzing and evaluating information obtained from a variety of sources to answer an essential question across all content areas.
- technology is used to analyze real world data through inquiry/problem solving in order to produce results.
- technology problem solving strategies is applied to innovative design for authentic, creative and real-world applications.

Big Idea: Research, Inquiry/Problem-Solving and Innovation – Continued

Middle Skills and Concepts - Research
Students will

- demonstrate an understanding of the strengths and limitations of the Internet
- apply a research process model (e.g., Big6, Research Cycle) to conduct online research
- locate and collect information from a variety of electronic resources (e.g. search engines, CD-ROM, online periodical databases, Virtual library/online catalogs, interactive video conferencing) and correctly cite sources
- evaluate the accuracy and appropriateness of electronic information
- organize information that is collected using a variety of tools (e.g., spreadsheet, database, saved files)
- communicate results of research and learning with others using the most appropriate tools (e.g., desktop-published or word-processed report, multimedia presentation)
- manipulate data using charting tools and graphic organizers (e.g., concept mapping, flow charting and outlining software) to connect ideas and organize information

Middle Skills and Concepts – Inquiry/Problem-solving
Students will

- use appropriate technology and strategies to solve content-specific problems in the real-world
- determine which technology is useful and select the appropriate tool(s) (e.g., calculators, data collection probes, videos, educational software) to inquire/problem- solve in self-directed and extended learning
- apply strategies for identifying and solving minor hardware and software problems
- use technology to solve problems using critical thinking and problem-solving strategies
- explore how inquiry/problem-solving impact science, technology, engineering and mathematics (STEM) (e.g., design, programming, robotics)

Middle Skills and Concepts – Innovation
Students will

- use technology to express creativity in all content areas
- design, develop, publish and present original, innovative products (e.g., Web pages, video, robotics, online content)
- collaborate with peers, experts and others to develop solutions and innovative products (e.g., design/CAD, troubleshooting, helpdesk, models, systems)
- describe how technological innovation often results when ideas, knowledge or skills are shared within a technology

MIDDLE LEVEL VOCATIONAL STUDIES

Program of Studies – Vocational Studies – Sixth Grade

The vocational studies program at the sixth grade develops an exploration of careers. This exploration includes the purpose of having a job, concepts of consumer-decision-making, saving money, and connections between learning and working. All content teachers are responsible for providing instruction in the vocational studies area. The vocational program provides opportunities for students to investigate career options and study the relationship between careers and life roles. Students will connect educational achievement to career opportunities and set clear directions and goals for high school and beyond.

Students in the sixth grade vocational studies area develop an understanding of career planning, consumer decision-making and financial literacy that will foster life-long learning. The curriculum relates to consumer decisions, financial literacy, employability and use resources impacting the community and environment. Vocational studies addresses strategies for choosing and preparing a career, skills and work habits needed in future schooling and work. Opportunities are provided for skill development such as: interviewing, writing résumés, and completing applications that are needed for acceptance into college, other post-secondary training or to get a job. The challenge is for students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the sixth grade are directly aligned with Kentucky's **Academic Expectations**. Consumerism and the vocational studies standards are organized around six "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness, Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career exploration and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career exploration in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- economic and social factors affect consumer decisions.
- culture, media and technology can influence consumer decisions.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- advocacy is important for personal, family and community health and safety issues.

Big Idea: Consumer Decisions – Continued

Grade 6 Skills and Concepts
Students will

- evaluate economic and social concepts and why they are important for consumer decisions by:
  - analyzing the differences between needs and wants and how individuals and families make choices
  - determining ways in which goods and services used by families impact the environment
  - applying decision-making strategies when buying products
  - comparing and evaluating products and services based on major factors (e.g., price, quality, features) when making consumer decisions
  - comparing the relationship between supply and demand and their role in meeting consumer needs
- investigate how culture, media and technology can influence consumer decisions by:
  - explaining how culture, media and technology impact the family and consumer decision-making
  - identifying and explaining ways consumer's buying practices are influenced by peer pressure, desire for status and advertising techniques (e.g., bandwagon, facts and figures, emotional appeal, endorsement/testimonials)
  - exploring the positive and negative effects of advertising and explain the impact they have on consumer decisions
- explain ways consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate ways consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - using resources from home, school, and community that provide accurate and relevant health information
  - describing the influence of environmental factors that positively and negatively affect health
  - researching and describing services provided by environmental agencies (e.g., Soil Conversation, Environmental Protection Agency, KY Department of Natural Resources)
  - investigating conservation issues related to consumption and waste management practices
- use a variety of sources to find examples of jobs carried out by people at school and in the community that support job success
- examine individual, family, and community roles and responsibilities by:
  - investigating a variety of resources and explain ways in which consumers are addressing the effects of renewable resources on the environment
  - describing jobs carried out by people at school and in the community that support success in school

Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- management of financial resources is needed to meet goals of individuals and families.
- savings plans and budgets are a basic component in making financial decisions.
- various services are provided by financial institutions (e.g., banks, credit unions).
- career choice and lifestyle impact an individual's financial future.

Grade 6 Skills and Concepts

Students will

- evaluate financial management resources and how they are needed to meet goals of individuals and families by:
  - prioritizing financial goals that might affect individuals, families and community
  - explaining various types of expenses (e.g., food, clothing, entertainment) and savings (e.g., piggy bank, bank account, savings bonds)
- investigate savings plans and budgets in making financial decisions by:
  - developing a savings plan that would achieve a specific goal
  - describing basic components of a budget (e.g., income, fixed and flexible expenses, and savings)
  - explaining when and why borrowing is used for the purchase of goods and services
- describe how basic services (e.g., deposits, checking account, savings account) are provided by financial institutions (e.g., banks, credit unions)
- explain how financial goals affect future lifestyle expectations and career choices

Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
5.4 Students use a decision-making process to make informed decision among options.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- an individual's work/career encompasses more factors than providing for basic needs.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- career choices are available in planning for job/careers in a variety of career clusters.
- the connection between work and academic achievement can influence one's future job/career.
- an Individual Learning Plan (ILP) is an academic and career planning tool.
- self-knowledge is an important part of the career planning process.

Grade 6 Skills and Concepts

Students will

- evaluate why people need to work (e.g., earn money, contribute to community, enhance self-esteem) to meet basic needs (e.g., food, clothing, shelter), provide self-satisfaction, and enjoyment
- investigate how jobs/careers reflect both individual and societal needs and vary within communities and regions by:
  - comparing different job opportunities in the home, school, and community (e.g., home business, flexible schedule)
  - recognizing that the roles of individuals at home, in the workplace, and in the community are constantly changing
- describe a range of academic skills acquired in school (e.g., verbal and nonverbal communication, computer/technical, mathematical) and explain how these skills impact job success and future career opportunities by:
  - researching career choices through the use of technology
  - identifying jobs in career clusters (e.g., Business and Marketing, Communications, Human Services, Social Services, Information Technology, Education, Social Sciences) that vary within and among regions
  - identifying resources (e.g., Internet, newspapers, magazines, counselors) and experiences (e.g., shadowing, mentoring) that can be used for locating job and career information
- develop an educational plan that can impact their future career opportunities by:
  - creating an Individual Learning Plan (ILP) as a tool to explore self-knowledge and academic aptitude and understand that career paths should relate to interests, aptitude, and abilities
  - identifying available postsecondary options (e.g., community and technical colleges, 4-year colleges, military service) used when developing career goals that are included in the Individual Learning Plan (ILP)
- recognize how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
3.8 Students demonstrate the ability to make decisions based on ethical values.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- interpersonal skills impact individual's career choice and success in the workplace.
- attitudes and work habits contribute to success at home, school and work.
- employability skills are important to achieve success in the workplace.
- academic and technical skills contribute to obtaining and succeeding in employment.

Grade 6 Skills and Concepts

Students will

- evaluate how interpersonal skills impact individual's career choice and success in the workplace by:
  - explaining ways to cooperate at home, school and work
  - identifying available resources to locate job openings in the community
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills
  - demonstrating how working cooperatively with people of diverse backgrounds and abilities is important to achieve success in the workplace
  - explaining the importance of working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
- explain how attitudes and work habits contribute to success at home, school and work by:
  - describing leadership skills needed in the school, community and the workplace
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - identifying consequences for actions when disobeying rules and routines when employed
  - explaining the role of authority in school and the workplace
  - identifying the importance of developing good work habits (e.g., attendance, time management, problem-solving)
- describe how employability skills are important to achieve success in the workplace by:
  - explaining the components and complete a job application
  - examining potential job/careers in the community
  - explaining how success in an academic course of study could contribute to the ability to achieve and succeed in employment (e.g., Science/Medicine, Language Arts/Librarian)
- explain how academic and technical skills contribute to obtaining and succeeding in employment by:
  - explaining how effective communication skills (e.g., reading, writing, speaking, and listening) impacts work-related situations and give examples for success at home, school and work
  - explaining how success in a technical course of study could contribute to the achievement in employment (e.g., Computer and Technology Concepts/Web Design, Life Skills/Child Care)

Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

Academic Expectations

1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

Grade 6 Enduring Knowledge – Understandings

Students will understand that

- scientific and technological changes can impact a variety of careers.
- technology skills can enhance learning and be used in developing a career plan.
- communication skills are essential in seeking and maintaining jobs/careers.

Grade 6 Skills and Concepts

Students will

- explain how scientific and technological changes impact specific careers (e.g., Nursing, Meteorologist, Radio and Television Broadcaster, Journalist)
- evaluate how technology tools (e.g., computer programs, Internet, email, cell phones) are used in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
  - developing components of an on-line Individual Learning Plan (ILP) to provide a focus for academic and career planning
- demonstrate how communication skills are essential in seeking and maintaining jobs/careers by:
  - describing the role of technology within a community in maintaining safe and healthy living environment
  - demonstrating how nonverbal communication skills (e.g., body language, facial expression, posture, dress) can impact relationships at home, school and the workplace
  - explaining how written communication skills are used at school and in the workplace

Program of Studies – Vocational Studies – Seventh Grade

The vocational studies program at the seventh grade develops an exploration of careers. This exploration includes the purpose of having a job, concepts of consumer-decision-making, saving money, and connections between learning and working. All content teachers are responsible for providing instruction in the vocational studies area. The vocational studies program provides opportunities for students to investigate career options and study the relationship between careers and life roles. Students will connect educational achievement to career opportunities and set clear directions and goals for high school and beyond.

Students in the seventh grade vocational studies area develop an understanding of career planning, consumer decision-making and financial literacy that will foster life-long learning. The curriculum relates to consumer decisions, financial literacy, employability and use resources impacting the community and environment. Vocational studies addresses strategies for choosing and preparing a career, skills and work habits needed in future schooling and work. Opportunities are provided for skill development such as: interviewing, writing résumés, and completing applications that are needed for acceptance into college, other post-secondary training or to get a job. The challenge is for students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the seventh grade are directly aligned with Kentucky's **Academic Expectations**. The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school career to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career exploration and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career exploration in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- economic and social factors affect consumer decisions.
- culture, media and technology can influence consumer decisions.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- a variety of print and electronic resources are available in the home, school, and community that provide health and safety information.
- advocacy is important for personal, family and community health and safety issues.

Grade 7 Skills and Concepts

Students will

- evaluate economic and social concepts and why they are important for consumer decisions by:
  - examining the use of economic principles and resources when making choices to satisfy needs and wants of individuals and families
  - comparing and evaluating products and services based on major factors (e.g., brand name, price, quality, features, availability) when making consumer decisions
  - comparing the relationship between supply and demand and their role in meeting consumer needs
  - applying decision-making strategies when buying products
  - determining ways in which goods and services used by families impact the environment
- investigate how culture, media and technology impact the family and consumer decision making by:
  - explaining ways consumer's buying practices are influenced by peer pressure, desire for status and advertising techniques (e.g., bandwagon, facts and figures, emotional appeal, endorsement/testimonials)
  - exploring the positive and negative effects of advertising techniques (e.g., free samples, coupons, use of gimmicks, misleading or false information) and explain the impact they have on consumer decisions
- explain ways consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate ways consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing the influence of environmental factors that positively and negatively affect health
  - researching local and state environmental issues that address consumption for conservation and waste management practices
- use print and electronic resources from home, school, and community that provide accurate and relevant health and safety information
- use a variety of sources to find examples of jobs carried out by people at school and in the community that support job success

Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- management of financial resource practices is needed to meet goals of individuals and families.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals.
- career choice and lifestyle impacts an individual's financial future.

Grade 7 Skills and Concepts

Students will

- evaluate financial management practices including budgeting, savings, banking services (e.g., purpose of checking and savings accounts, debit/credit), and investing (e.g., general types and purpose of investing) and explain why these practices are important in achieving personal financial goals by:
  - constructing and using a personal spending/savings plan and evaluate according to short- and long-term goals
  - explaining the difference between credit and debit cards
- investigate savings plans and budgets in making financial decisions by:
  - describing basic components of a budget (e.g., income, fixed and flexible expenses, and savings)
- explain how financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals by:
  - analyzing the steps in opening and using a checking and savings account
- develop financial goals for the future based on one's lifestyle expectations and career choices

Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
5.4 Students use a decision-making process to make informed decision among options.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- an individual's work encompasses more factors than providing for basic needs.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- career choices are available in planning for job/careers in a variety of career clusters.
- the connection between work and academic achievement can influence one's future job/career.
- an Individual Learning Plan (ILP) is an academic and career planning tool.
- self-knowledge is an important part of the career planning process.

Big Idea: Career Awareness, Exploration, Planning - Continued

Grade 7 Skills and Concepts
Students will

- explain why people need to work (e.g., social contacts, make purchases for necessities, expand knowledge, develop skills to meet basic needs (food, clothing, shelter) and for personal satisfaction and enjoyment
- evaluate how jobs/careers reflect both individual and societal needs and vary within communities and regions by:
  - comparing and contrasting the many factors that must be considered when selecting and preparing for employment or a career path
  - recognizing that the roles of individuals at home, in the workplace, and in the community are constantly changing
- describe why attaining academic skills are important in both school and the workplace by:
  - researching career choices through the use of technology
  - describing how job and career opportunities (e.g., veterinarian, sales associate, interior designer, meteorologist, physical therapist) are grouped within career clusters (e.g., Agriculture, Arts & Humanities, Business & Marketing, Communications, Construction, Education, Health Science, Human Services, Information Technology, Manufacturing, Public Services, Science & Mathematics, Social Sciences, Transportation) that vary within and among communities and regions
- develop an educational plan that can impact their future career opportunities by:
  - accessing and using resources for locating job/career information career paths related to interests, aptitude (e.g., academic skills), and abilities
  - updating the Individual Learning Plan (ILP) as a tool to explore self-knowledge and academic aptitude and understand that career paths should relate to your individual traits (e.g., interests, abilities, learning styles)
  - exploring and describing available postsecondary options (e.g., community technical colleges, 4-year colleges, military service) to develop career goals that are included in the Individual Learning Plan (ILP)
- recognize how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
3.9 Students demonstrate the ability to make decisions based on ethical values.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- interpersonal skills impact individual's career choice and success in the workplace.
- attitudes and work habits contribute to success at home, school and work.
- employability skills are important to achieve success in the workplace.
- academic and technical skills contribute to obtaining and succeeding in employment.

Grade 7 Skills and Concepts

Students will

- evaluate how interpersonal skills impact individual's career choice and success in the workplace by:
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills
  - evaluating the importance of working cooperatively with people of diverse backgrounds and abilities to achieve success in the workplace
  - designing a plan for working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
  - explaining how effective verbal and nonverbal communication skills impacts work-related situations
- explain how attitudes and work habits contribute to success at home, school and work by:
  - demonstrating leadership skills by participating in co/extra-curricular activities, home, school and community
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - describing consequences for actions when disobeying rules and routines at the workplace
  - explaining the role of authority in school and the workplace
  - explaining the importance of developing good work habits (e.g., loyalty, initiative, assuming responsibility, time management, problem-solving)
- describe how employability skills are important to achieve success in the workplace by:
  - using available resources for locating job openings
  - using established criteria to evaluate a completed job application
  - using technology to research job/careers in the community
- examine academic and technical skills and how they contribute to obtaining and succeeding in employment by:
  - explaining how success in an academic course of study could contribute to the achievement and success in employment (e.g., Math/Teacher, Social Studies/Politician)
  - explaining how success in a technical course of study could contribute to the achievement and success in employment (e.g., AgriScience/Game Warden, Survey of Technology/Engineering)

Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

Academic Expectations

1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

Grade 7 Enduring Knowledge – Understandings

Students will understand that

- scientific and technological changes can impact a variety of careers.
- technology skills can enhance learning and be used in developing a career plan.
- communication skills are essential in seeking and maintaining jobs/careers.

Grade 7 Skills and Concepts

Students will

- explain how scientific and technological changes impact specific careers (e.g., Construction Worker, Automotive Technician, Food Service industry)
- evaluate the purposes of technology tools (e.g., word processing, databases, spreadsheets, scanners, robots, personal electronic devices, Internet, email) and analyze how these impact productivity in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
  - continuing the development of the on-line Individual Learning Plan (ILP) to provide a focus for academic and career planning
- examine how communication skills are essential in seeking and maintaining jobs/careers by:
  - explaining skills used in classroom and workplace: letter writing, nonverbal/verbal communication skills and interview skills
  - using different formats to summarize and communicate orally and in written form for use in the classroom and the workplace

Program of Studies –Vocational Studies – Eighth Grade

The vocational studies program at the eighth grade develops an exploration of careers. This exploration includes the purpose of having a job, concepts of consumer-decision-making, saving money, and connections between learning and working. All content teachers are responsible for providing instruction in the vocational studies area. The vocational studies program provides opportunities for students to investigate career options and study the relationship between careers and life roles. Students will connect educational achievement to career opportunities and set clear directions and goals for high school and beyond.

Students in the eighth grade vocational studies area develop an understanding of career planning, consumer decision-making and financial literacy that will foster life-long learning. The curriculum relates to consumer decisions, financial literacy, employability and use resources impacting the community and environment. Vocational studies addresses strategies for choosing and preparing a career, skills and work habits needed in future schooling and work. Opportunities are provided for skill development such as: interviewing, writing résumés, and completing applications that are needed for acceptance into college, other post-secondary training or to get a job. The challenge is for students to make a successful transition from school to the world of work, from job to job, across the career life span, and to be productive citizens.

The vocational studies content standards at the eighth grade are directly aligned with Kentucky's **Academic Expectations**. The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways students demonstrate their learning and are specific to each grade level. The skills and concepts for Vocational Studies are fundamental to career exploration and builds on prior learning.

Academic Expectations 2.36, 2.37 and 2.38 bring forward the career exploration in Vocational Studies. Vocational Studies provide a connection to Kentucky's Learning Goals 3 (become self-sufficient individuals) and Learning Goal 4 (become responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- social factors and economic principles affect consumer decisions.
- culture, media and technology can influence consumer decisions.
- consumer management practices relating to the human, economic, and environmental resources are needed to meet the goals of individual and families.
- consumer advocacy groups impact consumer's rights and responsibilities.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.
- a variety of print and electronic resources are available in the home, school, and community that provide health and safety information.
- advocacy is important for personal, family and community health and safety issues.

Big Idea: Consumer Decisions – Continued

Grade 8 Skills and Concepts
Students will

- evaluate social factors and economic principles and their affect on consumer decisions by:
  - examining the use of economic principles and resources in making choices to satisfy needs and wants of individuals and families
  - comparing and evaluating products and services based on major factors (e.g., brand name, price, quality, features, availability) when making consumer decisions
  - comparing the relationship between supply and demand and their role in meeting consumer needs
  - analyzing the interrelationship between the economic system and consumer actions
  - apply decision-making strategies when buying products based on price, features, and quality
  - identifying practices that allow families to maintain economic self-sufficiency
- investigate how culture, media and technology impact the family and consumer decision making by:
  - exploring and using technology to access consumer information (e.g., products, services, and resources)
  - developing criteria to evaluate consumer's buying practices that are influenced by peer pressure, desire for status and advertising techniques (e.g., bandwagon, facts and figures, emotional appeal, endorsement/testimonials)
- investigate consumer advocacy groups and the impact of consumer's rights and responsibilities by:
  - examining economic impacts of laws and regulations that pertain to consumers and providers of services
  - identifying and explaining how consumer rights and responsibilities are protected (e.g., government agencies, consumer protection agencies, consumer action groups)
- evaluate ways consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing the influence of environmental factors that positively and negatively affect health
  - researching local and state environmental issues that address consumption for conservation and waste management practices
- use print and electronic resources from home, school, and community that provide accurate and relevant health information
- locate and interpret career information and job opportunities in the community that support job success

Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
5.4 Students use a decision-making process to make informed decisions among options.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- management of financial resource practices is needed to meet goals of individuals and families.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- saving plans (e.g., investments, savings accounts, stocks, bonds) and budgets are economic practices in making financial decisions.
- financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals.
- career choice and lifestyle impacts an individual's financial future.

Grade 8 Skills and Concepts

Students will

- evaluate financial management practices including budgeting, savings, banking services (e.g., purpose of checking and savings accounts, debit/credit), and investing (e.g., general types and purpose of investing) and explain why these practices are important in achieving personal financial goals by:
  - describing the risks and responsibilities associated with using credit
- investigate savings plans and budgets in making financial decisions by:
  - constructing and using a personal spending/savings plan and evaluate according to short- and long-term goals
  - analyzing basic components of a budget (e.g., income, fixed and flexible expenses, and savings)
- explain how financial institutions (e.g., banks, brokerage firms, credit unions) provide consumer services that help in achieving financial goals by:
  - analyzing the steps in opening and using a checking and savings account
- develop financial goals for the future based on one's lifestyle expectations and career choices

Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
5.4 Students use a decision-making process to make informed decision among options.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- an individual's work encompasses more factors than providing for basic needs.
- jobs/careers reflect both individual and societal needs and vary within communities and regions.
- career choices are available in planning for job/careers in a variety of career clusters.
- the connection between work and academic achievement can influence one's future job/career.
- an Individual Learning Plan (ILP) is an academic and career planning tool.

Grade 8 Skills and Concepts

Students will

- analyze why people need to work (e.g., earn money, contribute to society, develop identity as a worker, enhance self-esteem) to meet basic needs (food, clothing, shelter) and for personal satisfaction and enjoyment by:
  - comparing and contrasting the many factors that must be considered when selecting and preparing for employment or a career path
- explain how jobs/careers reflect both individual and societal needs
- analyze the direct relationship of academic/technical skills, extracurricular activities, and community experiences to career preparation by:
  - researching career choice through the use of technology
- create an educational plan that will can impact their future career opportunities by:
  - describing how job and career opportunities (e.g., veterinarian, sales associate, interior designer, meteorologist, physical therapist) are grouped together in career clusters (e.g., Agriculture, Arts & Humanities, Business & Marketing, Communications, Construction, Education, Health Science, Human Services, Information Technology, Manufacturing, Public Services, Science & Mathematics, Social Sciences, Transportation) that vary within and among communities and regions
  - accessing and evaluating resources for locating job/career information career paths related to interests, aptitude (e.g., academic skills), and abilities
  - creating and updating an Individual Learning Plan (ILP) as a tool to explore self-knowledge and academic aptitude and understand that career paths should relate to your individual traits (e.g., interests, abilities, learning styles)
  - explaining with examples postsecondary options (e.g., community technical colleges, 4-year colleges, military service) used when developing career goals that are included in the Individual Learning Plan (ILP)
- analyze how self-knowledge (e.g., interests, abilities) is helpful when selecting and preparing for a career path and that unique interests may lead to career choices

Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing résumé and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.
3.6 Students demonstrate the ability to make decisions based on ethical values.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- interpersonal skills impact individual's career choice and success in the workplace.
- attitudes and work habits contribute to success at home, school and work.
- employability skills are important to achieve success in the workplace.
- academic and technical skills contribute to obtaining and succeeding in employment.

Grade 8 Skills and Concepts

Students will

- evaluate how interpersonal skills impact individual's career choice and success in the workplace by:
  - analyzing and evaluating the role of each participant's contribution in a team setting
  - evaluating the importance of working cooperatively with people of diverse backgrounds and abilities to achieve success in the workplace
  - designing a plan for working cooperatively with others by contributing ideas, suggestions and efforts to complete a task
  - explaining how effective verbal and nonverbal communication skills impacts work-related situations
- examine how attitudes and work habits contribute to success at home, school and work by:
  - identifying effective group interaction strategies (e.g., communicating effectively, conflict resolution, compromise) to develop team skills (e.g., goal-setting, questioning, dividing work)
  - demonstrating leadership skills by participating in co/extra-curricular activities, home, school and community
  - explaining how attitudes and work habits transfer from the home and school to the workplace
  - demonstrating and explaining how various forms of etiquette are used in the home, school, community, and workplace
  - describing consequences for actions when disobeying rules and routines at the workplace
  - explaining the role of authority in school and the workplace
  - explaining the importance of developing good work ethics/habits (e.g., initiative, time management, respect, self-discipline, problem-solving) that support career retention and advancement
- explain how employability skills are important to achieve success in the workplace by:
  - using available resources for locating job openings
  - using established criteria to evaluate a completed job application
- explain how academic and technical skills contribute to obtaining and succeeding in employment by:
  - using technology to research job/careers in the community
  - explaining how success in an academic course of study could contribute to the achievement and success in employment (e.g., Arts and Humanities/Museum Curator, Health Education/Personal Trainer)
  - explaining how success in a technical course of study could contribute to the achievement and success in employment (e.g., Career Choices/Nurse, Business/Marketing Career Exploration/Advertising Manager)

Big Idea: Communication/Technology

Special communication and technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

Academic Expectations

1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are needed to be accepted into college or other postsecondary training or to get a job.

Grade 8 Enduring Knowledge – Understandings

Students will understand that

- scientific and technological changes can impact a variety of careers.
- technology skills can enhance learning and be used in developing a career plan.
- communication skills are essential in seeking and maintaining jobs/careers.

Grade 8 Skills and Concepts

Students will

- explain how jobs/careers (e.g., Physical Therapist, Radio and Television Broadcaster, Web Designer) have been created as a result of scientific and technological advancements
- evaluate the purpose of technology tools (e.g., multi-media, Internet, digital camera, teleconferencing, debit/credit cards) and analyze how these impact productivity in homes, schools and jobs by:
  - explaining how technology provides access to information and resources at home, school and the workplace
  - describing the role of technology within a community in maintaining safe and healthy living environment
  - updating the Individual Learning Plan (ILP) to provide a focus for academic and career planning
- explain how communication skills are essential in seeking and maintaining jobs/careers by:
  - describing effective speaking and listening skills used in a job interview
  - explaining skills used to seek, obtain, maintain, and change jobs/careers: written communication, nonverbal/verbal communication skills and interview skills
  - using different formats to summarize and communicate orally and in written form for use in the classroom and the workplace